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AMERICAN VETERINARY REVIEW.

APRIL, 1904.

EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, Feb. 15, 1904.

VON BEHRING'S METHOD OF IMMUNIZATION AGAINST TUBERCULOSIS.—The struggle against tuberculosis is about entering upon a new phase, and the final result cannot be much longer a question of doubt, if the method of immunization of von Behring should go into practice. At a meeting in October, 1903, Dr. Lorenz held a highly interesting conference, where the new mode was considered. At first the author gave the history of tuberculosis, which he divided into several periods: first, anterior to 1872, when the disease was considered as syphilis, and known likewise under the generic name of "the French Disease"; a second, up to 1875, relating the studies of Gerlach; a third, the most interesting, because of the demonstration of the tubercle bacillus by Koch in 1882; a fourth, when recovery from the disease was entertained through the use of tuberculin; and finally a fifth, by the discussion held between the advocates of the duality and unicity of animal and human tuberculosis.

Von Behring is a strong advocate of unicity, and all of his efforts are to fight or rather to prevent the disease. At any rate, it is well proven to-day that it is, economically speaking, impossible to fight the disease by the slaughtering of bovines that are affected; all that can be done is to restrain its spreading; and yet, after all, the method which has thus far yielded the best results is that of Bang.

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The immunity conferred by von Behring to cattle is purely artificial, and is the result of successive vaccinations. The method consists in injecting into the jugular vein a small quantity of dry culture of bacilli of human tuberculosis, diluted in the physiological solution of chloride of sodium. A second intravenous injection of a dose five times superior to the first is made after four weeks (but by recent recommendations this is made only after four to twelve weeks). The use of the bacillus of human tuberculosis to prepare the culture is certainly an expediency which Prof. Koch would not have resorted to, to immunize cattle against tuberculosis.

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Numerous experiments have been made, under the direction of von Behring, by Prof. Dr. Eber, Schlegel, and Lorenz, special instructions have been given to many learned delegates, and the results have in all cases been a triumph for the new method.

Among the experiments made, Prof. Lorenz recorded the one he had carried out with animals sent to him by von Behring. These animals were immunized, and they resisted the injections of tuberculous products and pure culture of bacilli, while two witnesses were infected by injections of these materials.

Since these experiments were made, others have been carried out very extensively, in Bavaria, in Hungary, and other places, on farms which were positively contaminated with tuberculosis. The results have always been the same. All the young cattle thus immunized, proved upon slaughter to have been immune from the disease; they all grew well, fattened easily and quickly. It is a method which now imposes itself.

Von Behring recommends the vaccination of young animals only when they are between three weeks and four months old, as at that age they are generally less liable to carry tuberculous lesions. To vaccinate them later, from two years and above, is a process which, resorted to at first, is now rejected. The reason is that the intravenous injections of vaccine promote in animals which have already tuberculous lesions a reaction analogous to

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that of ordinary tuberculosis, or even superior—a reaction which does not kill, but, nevertheless, renders success doubtful; although the process of von Behring claims that it may promote the recovery of small tubercular deposits. At any rate, it will be prudent not to proceed with the immunization until after an injection of tuberculin, when working with aged animals belonging to farms positively infected; but with young stock from three weeks to four months old, vaccination can be carried out from the start without resorting to tuberculin.

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The following notice well crowns the work done by von Behring:

"It is announced that the Prussian government has decided upon the early construction of a royal institute against tuberculosis. It will be erected near the city of Marbourg, and will be placed under the direction of von Behring. This is the result of the valuable work done by the future director."

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MARMORECK'S NEW POLYVALENT SERUM AND "GOURMINE."—In the month of June of last year, our regretted friend Nocard read a paper before the Société Centrale relating to the new application of the serum of Marmoreck, which hitherto had proven efficacious only in the treatment of anasarca in horses. When the first publications concerning the serum were made it was thought that its use would be beneficial in the treatment of all diseases due to streptococci. Soon, however, Lignières showed that it had not the slightest action in strangles. The pathogeneus germs of strangles and of anasarca were not identical. All these points we have already considered in previous communications. Subsequent to all this, however, Marmoreck has modified his serum; he has made it polyvalent, by injecting his animals with cultures of all the human streptococci he could get, and also with the streptococci of strangles. In this way he has obtained a serum which answers all purposes, not only for anasarca, but for all diseases of similar nature, and of course for strangles. Since I made allusion to these facts in my

February "Chronicle," many veterinarians have resorted to the use of the serum, and have nothing but good results to record—in fact, they were sufficient to allow Nocard to almost consider that a panacea against strangles had been found. In his remarks he concluded: "If for years I have said to you, use the serum of Marmoreck against anasarca, because it is the treatment which gives the best results; but do not use it for strangles, as it would be loss of time and money; to-day the conditions differ; the antistreptococcic serum is obtained by a different method; it is polyvalent, which means that it is active against all types of streptococci. If the trials which have been made are confirmed, veterinary medicine will have deserved well from agriculture, breeding, etc., as of all the diseases of youth in horses, strangles is no doubt the one which causes the heaviest losses."

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The preparation of Marmoreck's new polyvalent serum is not concealed, and what its beneficial effects can be may yet remain unpublished; still whatever laurels they may deserve are not going to be enjoyed quietly. In the *Annales de Medecine Veterinaire de Bruxelles* there is the review of an article the original of which I have not been able to secure, but I believe it is in the *Berliner Thierärztliche Wochenschrift*. The notice refers to a new antistreptococcic and antigourmous serum, which is made at the Serotherapeutic Institute of Hoechst, and is offered to the public under the name of "Gourmine." Its action has been tested on a large number of subjects, and it is said that at the Institute there are now 78 horses which have just been treated with "Gourmine." They are four and five years old. When they reached their destination, some were already diseased. They were placed in two stables and received 50 grammes of serum. No trouble was observed on any of the animals at the point of injection nor was there any general reaction on those which were healthy. But in the sick ones, twenty-four hours after the operation, there was a dropping in the fever and a reduction of the swelling of the lymphatic glands. In from three to five days all the symptoms had disappeared in them, and the disease did

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not make its appearance among the healthy ones, although they remained for three months in the stable, surrounded by subjects sick with strangles. Others had made similar experiments in private practice and the general conclusions arrived at are: (1) Gourmine has a specific action on the streptococci of strangles; (2) in all cases of that disease when there exists a pure streptococci infection and when the suppuration of the glands is not too far advanced, Gourmine will always succeed in arresting the disease; (3) the injection of Gourmine into healthy horses has a preventive action against the disease, but it is not yet possible to fix the duration of the immunity thus obtained.

Moral: Whether it is with the polyvalent serum of Marmoreck or with Gourmine, it seems pretty certain that, after all, veterinarians can now readily get the best of that horrid disease, strangles.

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TINCTURE OF ARNICA is, as we all know, a compound extensively recommended and used, not only in human but also in veterinary surgery, and many of us remember the days when it constituted one of the fundamental applications in cases of bruises, sprains, etc. Does it enjoy the same reputation? Perhaps; but whether it does or not, it is deserving of all the good qualities and effects that are claimed for it. I do not know if any serious blame has been attached to it, or if any accident has ever occurred from its use, yet at one meeting of the Société de Médecine and de Chirurgie Pratiques, at which I was present, a case was recorded which is not without interest for those who use tincture of arnica *ad nauseum*. The case was this: An old lady fell down, hurt and scratched her face on the sidewalk, and when she returned home swabbed her face with a dilution of tincture of arnica, which she applied at intervals for several hours. During the night a swelling took place around her nose, it increased, spread to her eyes, lips, and the whole of the face; she had all the appearances of an erysipelatous manifestation. Indeed, the whole face was swollen and red; there was

considerable swelling of the eye-lids, which kept the eyes closed; the lips were thick, and there were little blisters here and there. Fortunately the case looked worse than it was; it was a simple pseudo-erysipellatous dermatitis, which subsided without any trouble in less than a week. Similar accidents seem to have been entirely unknown, and if the internal administration of decoctions of arnica have been followed by serious accidents, the external use of the tincture has heretofore been free from any danger. Yet, if it has proven generally harmless, it can be injurious, as this case shows, and still it seems to be agreed that it is invariably useless.

It has seemed to me a rather interesting point. If we cannot accept the statement that arnica has not the properties claimed for it when used externally, if it is invariably useless, we at least can bear in mind that complications, even of a local nature, can occur, although the presence of the coat of hair which protects the skin of our patients may render this accident rather doubtful.

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PROF. DIECKERHOFF'S DEATH.—This distinguished veterinarian, of the Superior Veterinary School of Berlin, died in December of arterio-sclerosis, as already told in the REVIEW for February. Born in 1835, after brilliant study at the Berlin school, he entered private practice, in which he remained until 1870, when Gerlach, who was then director at Berlin, called him to fill the chair of clinic. After the death of Gerlach, Prof. Dieckerhoff went rapidly to the front, and soon found himself at the head of the two largest clinics in Germany. But the work was too heavy, and the department had to be divided. To Prof. Möller the surgical clinic was given; Dieckerhoff kept the medical. During twenty-eight years he took a great part in the veterinary sanitary organization of Germany. He published several works, among which are: Special pathology and therapeutics, veterinary legal medicine, history of rinderpest, and typhoid fever of the horse. Dieckerhoff was essentially a veterinarian; he had considerable experience, was a superior diag-

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nostician, was very popular as a teacher, and was much liked by his colleagues.

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THE NOCARD SUBSCRIPTION.—I have already acknowledged the contributions to the Nocard Monument Subscription through the checks I have received from the faculty of the New York-American Veterinary College, the Missouri Valley Veterinary Association, the Michigan State Veterinary Medical Association, the Massachusetts Veterinary Association, and from our old friend, Dr. Wm. Dougherty. I herewith renew my thanks, and those of the Committee. I have received a communication from Dr. Kelly and from Dr. Mohler calling also for funds. I would respectfully suggest that the collection be pushed a little, if Americans will not allow other nationalities to take the lead in the expression of their appreciation of their departed *confrère*.

A. L.

THE ST. LOUIS MEETING OF THE A. V. M. A.

Arrangements are well under way for the forty-first annual meeting of our national (or more properly, international) veterinary association, which will take place at St. Louis, Mo., Aug. 16, 17, 18, and 19, during the progress of the great Louisiana Purchase Exposition. Dr. Chester Miller, of the Bureau of Animal Industry, is Chairman of the Committee of Arrangements, and he has gone about the organization of his committee in that systematic manner which is certain to bring about its harmonious working. Secretary Repp informs us that the number of volunteer essayists is larger than last year at this time, and everything points to a full and exceptionally valuable programme. An effort is being made to have with us at St. Louis representatives from various Continental governments, invitations having been forwarded through diplomatic channels to the governments of England, Germany, France, Italy, Denmark, Belgium, etc.

It is to be hoped that the local committee of arrangements will this year return to democratic principles in the matter of

entertainment. The REVIEW has held right along that, while the social side of our convention life is most enjoyable and much to be encouraged, entertainment upon the elaborate scale of the past few years will in the end work to the serious detriment of the Association as a scientific body. The pace of the recent past is only possible in large centres where there are many enthusiastic and harmonious members with long purses, and it will take but a short time until the Executive Committee of that organization will find that it is without candidates for the next place of meeting, for the reason that the responsibility and expense which go with the invitation are greater than most veterinary localities are willing to assume. Therefore, we trust that the present committee will have the courage to depart from the history of the past few meetings in that they will eliminate all expensive entertainment. This year this can be done with much grace, because it is already provided by the Exposition. Time spent on the perfection of the arrangements for the hall in which the convention is to be held, (especially as to acoustic advantages) the clinic, hotel and railroad facilities will be of much more service to the Association, and will be more appreciated by the members who have the interests of the Association at heart.

There seems to exist this year a concatenation of circumstances which should ensure the largest and best meeting of the American Veterinary Medical Association which has been held in her history. First of all, the condition of the individual members from the business standpoint; reports from all points indicate that the general prosperity of the country and the value of live-stock have made the returns to the veterinarian quite liberal, and hence there is always more inclination to lay aside the burdens of practice for the profits and pleasures of a week's vacation at the meeting of this Association. Second, there has never been a time when more weighty questions were pressing for solution than at present. The ever uppermost problem of tuberculosis has passed into its fifth period, as explained in Prof. Liautard's "Chronicles" this month; that is, the question of

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preventive inoculation is on trial, and, while von Behring and others are making statistical history in Europe, Pearson and Gilliland are conducting experiments in Pennsylvania, and it is to be hoped they may be sufficiently far advanced by the summer to communicate their experience to the Association at St. Louis. And it may be possible for the Chief of the Bureau of Animal Industry to carry the subject of the unicuity of the tubercle bacillus further through an additional year's experience, and more thoroughly establish his Ottawa contention that bovine tuberculosis is transmissible to man. Aside from the "white plague," Texas fever, with which so much has been accomplished, and hog cholera, which is yet in need of much experimental work to perfect a serum that can be more confidently relied upon; and so on *ad infinitum*. In the realm of practice we have many diseases which are calling for investigation and interchange of ideas and experiences. It is a professional embarrassment that we know so little of that fatal and common affection of horses, azoturia—either in its pathology or its treatment. While that formerly fatal affection of milk cows, parturient apoplexy, has lost its worst feature in a lessened mortality through a happy system of local treatment, still the true nature of the disease cannot be accurately stated. In a discussion before the Pennsylvania Association in March it was suggested that the organism which gave rise to the toxæmia was possibly an anærobe resident of the udder and that the injection of oxygen or oxygen-bearing substances into the gland resulted in the destruction of the microbe and the cessation of the proliferation of toxines. The great class of diseases which Nocard has grouped together as Pasteurellas are also worthy of the earnest thought of such a convention, while osteo-porosis is as little understood as the flexible subject of rheumatism. Then the clinic it is hoped will be improved on, and, if we may suggest, it would appear that for the national meeting one based upon the lines of the Ottawa clinic is most suitable. St. Louis being one of the central points of the Bureau of Animal Industry, a pathological exhibit, such as were held at Omaha in 1898 and at New York in 1899,

would be most instructive to those members whose opportunities debar them from witnessing such interesting lesions as are found by the Bureau's agents in the great abattoirs of the country.

We trust that the veterinarians of the United States and Canada will lay aside their usual duties for this week in August and make the trip to St. Louis, where they will not only be participants in the stirring events of the American Veterinary Medical Association, but where they can witness one of the great events of future history—the exposition of the evidences of the progress of the world.

THE AUTOMOBILE DISCREDITED BY ITS FRIENDS.

Mechanical wagons, called by whatever name fancy has dictated, have arrived at a critical period of their existence. For the past six or eight years public attention has been attracted to them largely through their novelty and the sweeping assertions and predictions of manufacturers and faddish newspapers, who gave the date of the disappearance of the horse from the face of the earth with a precision almost suggestive of second sight, and heralded the information that "orders" for machines were two years in advance of the manufacturers' capacity to turn them out. The machines demonstrated their capacity to travel very rapidly, not only upon the tracks, but in our streets and parks, with a reckless disregard of life and limb that would not have been tolerated from any other source. The time has now arrived, however, when the results of the generous and expensive trials given to all the various kinds of automobiles by many representative business houses of the large cities, must be shown through their more general adoption or their rejection. Some months ago the REVIEW indicated the trend of sentiment along this line by recording a number of instances where the horseless carriage had been discarded by large business firms in New York City on account of unreliability and unsatisfactory service. We could add case after case where physicians, private

families, business houses, etc., have cast them aside and resumed horse-power since that article was written. The newspaper which did most, not only to push the fanatical claims of the automobile manufacturers, but to discourage the horse industry—despite its great patronage from that source—was the New York *Herald* (which we once suggested should have its name changed to the *Automobile Gazette*). When such an admission as is contained in the following article from its issue of March 20, is taken as a truthful expression of the automobile situation in New York to-day, the attitude of the REVIEW in dealing with this question for the past few years seems almost prophetic :

“As evidence of the comparative merits of motor cars and horses for light delivery work and heavy trucking an order placed last week by the new Fourteenth Street Store, of which Henry Siegel is at the head, will probably carry more weight among practical business men than all the short special trials that have been or may be made by automobile manufacturers.

“As everybody knows, the Fourteenth Street Store is a new establishment from the ground up. Starting with new stock in a new building, it has been the purpose of the management to have every feature of the equipment the best from the standpoint of efficiency and economy. When it came to the delivery service, which is one of the most important features of the twentieth century department store, Mr. Siegel and his associates had to choose between horses and motor wagons, and it did not take them long to make their choice.

“After having themselves tried the steam and electric trucks and delivery wagons and having seen a score or more of the leading business houses of New York test all the various types in an experimental way, the new firm turned them down, one and all, and placed an order with Fiss, Doerr & Carroll, the largest dealers in the world, for two hundred and forty horses of the best stamp. One hundred and fifty head are to be of the light delivery type, for quick work on the city and suburban retail dry goods wagons; fifty heavier express horses will be supplied for the furniture wagons and the remaining forty will be heavy draught horses for hauling merchandise from the steamers and cars to the Fourteenth Street Store.

“The order is one of the largest filled by Fiss, Doerr & Carroll since they fitted out the great Barnum & Bailey shows with

three hundred high class draughts about a year ago. It is also one of the most important orders of the year, from the fact that *it indicates the passing of the automobile for practical business purposes in a city where conditions are more favorable than almost anywhere else for the use of motor cars.* [Italics ours.]

"The order is further noteworthy to users of business horses as showing Fiss, Doerr & Carroll's unusual facilities for collecting and distributing high class animals with economy and despatch. Nearly every firm in the trade, not only here but in the West, that could swing a deal of such magnitude, made a bid for the order and Fiss, Doerr & Carroll obtained it only after hot competition."

"VETERINARIAN AND SCHOLAR" is a broad and comprehensive review of veterinary science, the veterinarian, and their future, from the versatile pen of Dr. D. Arthur Hughes, appearing in this number. We announce with enthusiasm that, beginning with this number, Dr. Hughes becomes a regular collaborator of this journal, and, taking his present contribution as a gauge of his calibre and capacity, the profession is to be sincerely congratulated upon his acquisition to the REVIEW staff.

PROF. A. LIAUTARD, senior editor of the REVIEW, has purchased the only right of translation from the European editors of Nocard and Leclainche's work, "Microbian Diseases," and its publication in America will take place shortly.

PREVENTION OF HOG CHOLERA.—A press telegram from Columbia, Mo., states that Dr. R. E. Graham, recently bacteriologist of the Missouri University, has announced that "hog cholera may be prevented." The message then reads in substance: "He has discovered that hogs may be immunized against hog cholera by means of inoculation, after exactly the same manner that cattle on the Missouri agricultural farm are now being rendered immune from Texas fever. Doctor Graham, assisted by Doctor W. R. Shaefer, began in 1901 a system of experiments, and has since then inoculated over 1000 hogs, the work being conducted on herds in all sections of the State, and under varying conditions. A test experiment was made in Boone county on a herd of 100, the hogs being first inoculated with the preventive and then exposed to the disease.—(*Breeder's Gazette.*)

ORIGINAL ARTICLES.

VETERINARIAN AND SCHOLAR.

PRESENT DEMANDS IN VETERINARY MEDICAL TRAINING—
OPENINGS FOR THOROUGHLY TRAINED VETER-
INARIANS IN AMERICA.

BY D. ARTHUR HUGHES, PH. D., D. V. M., CORNELL UNIVERSITY ; GOV-
ERNMENT INSPECTOR, EAST ST. LOUIS, ILL.

There cannot be a better time than this, at the opening of a new volume of the AMERICAN VETERINARY REVIEW, to take a broad outlook upon the needs in veterinary medical training at the present time and to point out the opportunities for veterinarians of the best training in America. Time and again some of the chances for veterinarians have been mentioned by writers. Yet, strangely enough, many of them have not been placed in strong light before young men of natural aptitude for the work. Still less, never if I mistake not, has there been a complete presentation of the demands for the highest success in the various branches of the profession. Men have been too apt to allow their minds to dwell upon evils about them—the amusingly ignorant quack and his quackery—and, their minds thus clouded, to forget the other side of the picture.

If ever there was a day when there were opportunities for highly trained veterinarians, that day is here. The stigma upon this profession, if there is a stigma, is caused by a too low standard of education. That is a false notion, and ludicrous because it is so false, that men whose lives are given to studies in comparative medicine are of necessity inferior in mind. We might as well apply the axe at the root of the tree and say that this groundless opinion is based upon the observation of the public that the veterinarian in this country has not had the amplitude of knowledge demanded of him by his science, that thoroughness of training expected of a professional man, that positive familiarity with the many branches and recent advances

in comparative medicine and biology which it is accustomed to expect of a scientist. A change will come in public opinion when ignorance, always the butt of the satirist, is displaced by knowledge; when the standard of education for admission of members to the profession is raised to cover the advances in modern medicine, when the graduates have a familiarity with, not a few, but all the branches of veterinary science in a degree at least equal to that required in Europe. French, English, and, more particularly, German standards of education have remodelled the universities in this country during the last twenty-five years and made them the pride of the nation. When a similar change comes over the veterinary colleges in America we will have a training suited to American conditions, at least as valuable to us as that of Alfort is to France, Giessen, Dresden and Berlin are to Germany, and the Royal College of Veterinary Surgeons is to the British world. When such a change comes, our graduates will be those of a long and thorough training, proved knowledge and scientific efficiency. It is time that the veterinary profession should be undecided in some things. Plain speaking is likely to bring out the truth. The ungarished truth is that in our training we are lapping far behind Europe. There are not and cannot be any short cuts to a thorough knowledge of veterinary medicine as it is taught and practiced in the old world. If we bemoan the state of things in the profession, the fault is entirely in ourselves. We need a fuller equipment for our work. We need to go over in our preparation every branch of the many branches of the science, conscientiously and faithfully. We must of needs be masters in observation and the record of observations, skilled in the theory of medicine and practiced in clinical medicine, abreast of the times in pathology and bacteriology, adepts in posology and not mere amateurish dabblers in drugs. We must be sterner and more intense students, wider in our reading. We must in our preparation for the study of medicine have a knowledge at least equal to that required in human medicine and in our medical training we must cover the whole field earnestly and consistent-

ly. In this age which is tingling with intellectual activity, when advances in science occur hourly, when there is such zest in research—who are we that we should be so foolish as not to know what is required of us? The standard of our training must be raised. The time required for our training must of needs be longer. The times require it, and the state of the profession demands it.

I. THE EXTENSIVE TRAINING FOR A VETERINARIAN DEMANDED BY THE TIMES.

In a consideration of the educational qualifications requisite for best work in the profession we should speak, first of all, of the preliminary reading which is necessary before a professional course can most profitably be pursued. Courses in veterinary medicine have hitherto been entered upon by men with a natural aptitude for the work, a familiarity with farm animals and a commendable desire to do as well as possible. Many of these men, largely because of their natural aptitude for veterinary work, have had much success in a kind of practice not necessarily conducted very scientifically, nor requiring a burdensome amount of scientific knowledge. Some of these, in default of preliminary training and a super-added inferior scientific education, have kept dipping into scientific books in a desultory fashion whenever they got into difficulty in their cases and have bettered themselves and made a braver showing as professional men in their particular locality, or even before State societies. All praise is due to such men. They are the stronger men in the communities and would be the first to admit that a larger measure of success could have been obtained by a better training. As a result of the hard lessons of experience they would admit that a more extensive course would have helped them and should help those who succeed them. They would admit that deficiencies of preliminary training were a hindrance to them.

I. *Work preparatory to the professional training.*

(a) *Rudimentary.*

Partly from a desire to increase the roll of students, partly because of a creditable purpose to put as many men as possible

into the field of veterinary practice, many "colleges" (save the mark!) we blush to say, have thought it necessary to enroll students upon their books without so much as the requirement from them of a rudimentary education. Though such students have sometimes done fairly well in the limited curriculum through which they passed and perhaps better still in practice, it is beyond question unwise to continue in this privilege. With opportunities so abundant for a drill in the rudimentary studies in public schools within reach of all, this fault is inexcusable. In a profession which professes to be a "learned" profession it is indeed laughable to allow such a thing.

(b) *The sciences.*

The immediate demand in preparation for a first-rate course in veterinary medicine is the mental discipline and knowledge obtainable in the complete four-year course of a well-equipped and high-grade high school or academy. In a shorter time than four years no student can possibly obtain that knowledge of the sciences introductory to the arduous study of medicine, together with the languages, without which he is sadly handicapped in the mastery of medical terminology and in the pursuance of research later; nor in less than four years can he have had the mental discipline which the strict attention to such studies can give him.

In the choice of sciences preliminary to the study of medicine, and collateral to it, perhaps weight should be placed on mathematics, physics, chemistry, physical geography, botany, vertebrate and invertebrate zoölogy and entomology—all of which are well taught in first-rate high schools and academies. While at first thought it may seem that mathematics is unnecessary, it is well known by educators that the development of the reasoning faculties is in no other way so well brought about except by this study. A close study of physics, and more particularly of optics, acoustics and electricity—which cannot be taken up in a veterinary college—is fundamentally important, inasmuch as without a knowledge of optics the medical student cannot properly understand his laboratory instruments, the compound mi-

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croscope and the camera lucida, nor the optical law which governs the use of the eye ; without a knowledge of acoustics such a student cannot understand the mechanism of the ear ; without a knowledge of electricity he cannot use the instruments of the physiological laboratory wherewith phenomena of the heart, lungs and nervous system are studied. That he should study introductory chemistry before passing to its more extensive study in college, needs no argument. Physical geography will make him acquainted with natural law which is operative in the world, an acquaintance with which will prepare him for a full understanding of veterinary hygiene later. To be versed in botany will give him a knowledge of plants, their classification, growth, nature—efficacy or noxiousness—which will prepare him for the study of organic compounds of plant derivation in *materia medica*. The study of vertebrate zoölogy is necessary, for it opens his eyes to the system of arrangement of the animal kingdom—of which his animals are a part—and of the relation of all animals to the law of evolution. The study of invertebrate zoölogy and entomology is indispensable, because without the knowledge of these the anatomy of lower fauna cannot be understood, nor can a scholarly knowledge be had of the myriad of parasites which infest farm animals. After a close study of insects and the lower fauna, in even the small entomological laboratory often found in good high schools and academies, the study in the veterinary college of parasites infesting farm animals and causing numerous diseases becomes an enchantment.

(c) *The languages.*

If there is any one point which should be strongly emphasized, it is that those preparing for a medical training must come to the college able to read matter other than that written in English. The French and the Germans have the best veterinary colleges in the world. In their colleges research is keenest and the advances in the science emanate almost entirely from them. In France and Germany the ablest veterinary journals are published ; from these countries a large part of the newest knowledge in this science proceeds. Their vet-

erinary colleges are well-endowed national institutions, manned by scientists trained in the best methods of research, alert in all practical questions, working strenuously in pursuit of new knowledge which will solve vexing questions in animal diseases and will make animals of more practical utility. Their scientific papers, usually complete and scientifically perfect in record of demonstration or experiments, are published in their languages in the great French and German scientific magazines. It is, therefore, of paramount importance that a reading knowledge of both French and German be had by the student before he enters upon a veterinary medical training. The veterinary colleges have no time, neither is it their place, to teach these languages. Yet they must require a knowledge of them sufficient that the student may read them readily and turn, at least the gist of foreign scientific papers he is under obligation to read, into English idiom. The necessity of studying French and German is not a bogie, is nothing to be scared about, for two years' training in a good high school in each language will equip a man to read, shortly with ease, anything in French and German scientific literature. Nothing can be more ridiculous than the thought that a scientific veterinary student, with high purposes, can do without these languages: for if he enters upon a piece of research work, if he could look the matter up in French and German scientific literature, the chances are that the work he did and thought new, had been done before and done better, long ago. His time was wasted; his enthusiasm was of no effect; his work was a farce.

The mastery of scientific terminology is the greatest bugbear to the medical student, at least in his first year or two at college. This can be obviated, or rendered easy, by a two years' study of Latin and Greek in the high school. After this study he can trace medical terms to their derivative and can easily remember them and their meaning from Greek or Latin noun or verb from which they are formed. This is of great value, for the mastery of the thousands of medical terms occupies much of the time of the first year at the college.

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The ability to express himself admirably in spoken and written speech is the mark of the scholar. Alas! How few there are in the veterinary profession, as it is to-day, who can do this. Again it must be said that the fault is in a lack of preparation before entering upon the medical training. High school students to-day are studying with relish the English classics—the essayists like Macaulay and Addison and Carlyle; the orators, like Burke; the novelists, like George Eliot and Goldsmith. They are becoming imbued with a sense of what is excellent in expression and are learning to couch their thought in terse, idiomatic language. Is it unbecoming a veterinary student to express himself well in his native tongue? Can he afford to write scientific papers one jot poorer in form and arrangement than those found in the great medical periodicals like *The American Journal of the Medical Sciences* in this country or the *Lancet* or *British Journal* in Great Britain? A scientific paper is none the less scientific because the thought in it is well expressed. Let the man preparing for the study of veterinary medicine avail himself of the high school training in English then we will have scientific papers which, not only because of their scientific importance, but also because of their excellence of expression will command the respect of any medical society or of any medical man.

2. *The professional training.*

The standard for a veterinary medical course in America is yet far too low. The unwisdom of this is that the standard set as a rule gives a well-founded impression of inadequacy of training, while the limited training is not at all a sufficient professional education to enable the graduate to satisfactorily enter into the higher work in the profession to which, if he had a better training, he might eventually be called. The higher places of veterinary service, in the educational walks of life, that is, college positions; the veterinary positions in departments of public health, municipal and State; the federal meat inspection service; the State's meat inspection and quarantine service; the national pathological research work; the positions in patholog-

ical research in our foreign dependencies; the veterinary positions in the army, are with difficulty filled. There is a constant and growing demand for completely and thoroughly trained veterinarians, who are scientists in the best technical sense of the word. Lo! Such men are with difficulty found. Some of the veterinary colleges are doing their best under the trying circumstances with which they are hampered to fit men for the crying demand. The men who are leaders in the veterinary profession as it is to-day are well aware of the low standards and the unpreparedness of veterinary graduates for the best work. It must be agreed by all hands that the veterinary training is far from complete, that more subjects should be studied; that more time should be taken to do the work; that there should be a more complete and more severe training demanded. The training, probably, should be something like the following:

(a) *Anatomy, surgery, and allied subjects.*

Anatomy is the key to all other veterinary subjects. It should be studied continuously for two full years. The details of osteology, arthology, myology, thoracic and abdominal viscera, the vascular system, nervous system, brain and organs of special sense in the horse should be mastered by lectures, frequent searching quizzes, dissection and demonstrations before class in lectures from prepared material, and in the anatomical laboratory from fresh subjects. But the dissections by students should include the cow, sheep, pig, dog, cat, fowls and the goose. The dissecting, absolutely required of all first and second year students, should not take less than twenty hours each week, the work being done always directly under the attending professor and demonstrators. Drawings should be required from students from dissections made in the laboratory, application to the work and certainty of results should be assured by giving each student his grade based on marks on attendance, drawings, quizzes, weekly examinations, half term and term examinations, yearly examination and examination covering the two years' work. My visits to some veterinary colleges have proven to me that this untiring earnestness is not always required of students.

Anatomy can never be ground into men unless there is severity on the part of instructors.

The work in surgery should include lectures and demonstrations in surgical anatomy, lectures on surgical principles and methods, surgical exercises, covering every common surgical operation, tried repeatedly by the students on chloroformed subjects, descriptive and operative surgery taught by lectures and quizzes on head, neck, chest, limbs, skin, abdominal organs, genito-urinary and castration. Such work, together with the cognate subjects of which I shall soon speak, cannot be taught in less than two years. The surgical principles should be borne in upon the student and his hand trained to expertness by requiring two years attendance and work in surgical clinics of his college in which he should be required, strictly applying all the modern surgical principles he has been taught, to perform major or minor operations upon patients under the eye of the professor of surgery and graduate assistants. Merely seeing operations, will not suffice. The student must be set at work himself under the skilled teacher.

The work in the surgical department should include the following cognate subjects, to wit: Zoötechnics, obstetrics, conformation of the horse, examination for soundness, horse-shoeing, saddlery, bits and biting, bridles and bridling, jurisprudence connected with surgical work in practice. All these should be taught in detail. Obstetrics should include in its teaching embryology, the period of gestation, normal and difficult delivery as they are related to all our animals, with lectures, quizzes and practical work. Knowledge of conformation of the different kinds of horses is necessary; for instance, the War Department requires from its intending-veterinarians knowledge of the conformation of the cavalry horse. The work should be both theoretical and practical. Knowledge of ideal conformation of all our animals should be had, of the different breeds and species of our domestic animals. Knowledge of shoes and shoeing is of prime importance. Each college should have a smithy and men should be taught the kinds of shoes and their use upon the mal-formed

or normal foot of the horse. The matters of saddlery and biting are needful for the proper service of cavalry and other riding horses; defective and excellent saddles and bits should be exhibited to students and the principles of governing the riding horse known. Finally the morale of the surgeon in his relation to the community and laws relating to his work should be taught. Since surgery is of such great value and includes so much the college should have a seminar in which recent literature on surgery should be discussed, cases occurring in clinic should be spoken of, papers should be read based on clinical notes—the best of them to be published with photographic illustrations or drawings in the veterinary journals.

(b) *Microscopy, histology and embryology.*

Much time throughout one year, and that the first in the medical course, should be given to these three subjects. Valuable as they are in themselves, the first as a prerequisite for all work with the scientist's best friend, the microscope; the second, to impart a full knowledge of the fine structure of the body; the third to acquaint one with the miracle of the inception and development of the foetus,—they are the more valuable, for histology leads up to the most fascinating of all medical studies, pathology, and embryology is closely related to that practical study, obstetrics. At least a few weeks should be given up, therefore, at the beginning of the medical course to obtain a certain knowledge of the optical law governing the compound microscope, an examination of its parts and the principles of its use. The camera lucida should be studied, the polaroscope, spectroscope and microscopic photography. The student is then ready to enter upon an extensive study in histology—preceded by work in fixing, impregnating, imbedding, cutting, staining and mounting material for study first-hand of the fine anatomy of all parts of the body under the microscope. He should thus be made to prepare, stain and mount material on slides representing normal histological structures of all parts of the body of vertebrates, including man, the horse, cow, dog, and to study them under the microscope, to make microscopic drawings of

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the pictures he sees under the microscope, naming all the parts. There is therefore no doubt that such a course, to be best studied, should be preceded by a course in drawing. The medical student cannot hope to record in a drawing the observations he makes on a tissue or tissues before him under the microscope unless his hand is trained to draw well what his eye sees. Veterinary microscopic drawings, as they are found in the veterinary press, as illustration on scientific observations, have hitherto been crude. We should see to it that improvement is made in this particular.

The science of embryology unfolds to the veterinary student knowledge upon the mysteries of procreation, conception and foetal development, and prepares him for practical obstetrical operation. Its study, taking only a few months—best in the spring of the year—should be taught by lectures on embryological theory, examination of the development of the chicken's egg, microscopic study of prepared slides illustrating the first steps in foetal development, by demonstrations carried on by the professor in which microscopic preparations are magnified and projected upon a screen by means of the stereopticon, and by actual anatomical study of foetuses in utero in the laboratory. The facts can further be studied by text-book work—like Minot's text—and tested by stiff written examinations.

(c) *Comparative pathology, bacteriology, meat inspection and allied sciences.*

Perhaps of all medical studies the two which should receive the most weight are pathology and bacteriology. The kindling enthusiasm of an expert, authoritative teacher in these sciences will stir deeply the heart of the student and enlarge his mind upon the commanding place of bacteriology in modern medicine and the paramount importance of the closest study of pathology. These, with the allied sciences, should occupy two years in the medical course. The study of general pathology should include not only sharp, exciting quizzes on a text like Ziegler—fusillades of questions and the obligation on the part of the student to have the clearest understanding of the tech-

nical terms of the science—but should be illustrated by actual specimens of all pathological conditions studied, brought into class, examined and remembered by all. General pathology should be accompanied by laboratory study of these same specimens, in which the student should be made to describe what he sees implicitly and correctly, to make drawings of gross pathological specimens and to study slides made from parts of the same specimens, from which he can study the pathologic condition microscopically. Such a course must be followed by one in special pathology in which particular diseases—anthrax, tuberculosis and the like—can be given a careful study from gross and microscopic material. Work in clinical examination of the blood—hæmatology, should be done in the pathological laboratory, for this is one of our chief means of differentiation in many diseases. With a museum well stocked with illustrative specimens, a plenteous supply of pathological slides illustrating the microscopical study of abnormal conditions, constant influx of new material and the master-mind of the teacher whose enthusiasm can appeal to the student, the interest can never flag.

Bacteriology is the youngest and greatest of the sciences: for it has revolutionized modern medicine. The veterinarian who is not acquainted with its methods, experienced in the bacteriological laboratory, versed in the wonders it has accomplished, is by his own confession shelved as a medical man. The veterinary professional course must, more than anything else, include the whole technique of the bacteriological laboratory; the materials of the laboratory, the theory and methods of sterilization, preparation of media, culture methods, propagation and study of bacteria, pathogenic and non-pathogenic. A whole year, perhaps longer, may well be given to this profound subject with a long period of laboratory work, lectures, text-book work. The course should include the direct study of the major portion of the bacteridian diseases pathogenic in our animals. The student to be urged, if not required, to make a special study, before taking his degree, of some one specific dis-

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ease, together with the advancement of science in it and the new literature upon it.

The study of meat inspection means the application of pathological and bacteriological knowledge to the meat trade with the object of preventing disease in man. This course should be eminently practical and should include familiar talks on the methods of meat inspection as it is carried on in the federal service, some drill on the latest printed rules and regulations of the Bureau of Animal Industry, visits to abattoirs to make a close-at-hand acquaintance with the requirements. There should also be reviews on the major points to be well known in the diseases for which animals are condemned under the regulations. There should also be talks on the quarantine regulations, quarantine methods as carried on by the Department of Agriculture.

The pathological and bacteriological course might well go into milk bacteriology and milk inspection, a subject which is growing in interest in the public mind. Besides, it is fast becoming part of the function of the veterinary profession to attend to the public interest in this regard. Milk inspection unites bovine pathology with bacteriology, as it is related to bovine race. Unmistakably then it is the veterinarian's office to attend to this work, municipal or state. Moreover the veterinarian must know the methods of manufacture of serums and immunizing materials as they are made in the bacteriological laboratory. He should have the advantage of hearing popular lectures by those already in the work on the opportunities and advantages for well-trained veterinarians in national, state and municipal work where he can utilize his bacteriological and pathological knowledge and find a living, a name and a career.

(d) Miscellaneous subjects.

There are some subjects, which though not strictly professional, the well-trained veterinarian should know, and the knowledge of which should be had during his medical course. These are : first, breeds and the breeding of horses, cattle, sheep, swine, dogs and cats ; second, the various feeds, and feeding methods in these animals. It is expected of the veterinarian that he

should know at a glance the different breeds of the various domestic animals, the way the different breeds were formed, the value of the breeds. His words also should be those of wisdom and experience when he is questioned on the nutritive value of feeds, on amounts and kinds of feed to be given to the various animals under varied conditions. These subjects are closely allied to zoötechnics, physiology and therapeutics, and must of necessity be taught him in his course.

(e) *Chemistry, physiology, materia medica, therapeutics.*

If these subjects are to be commensurate with the needs of a well-trained veterinarian they must be taught through a period covering four years. Chemistry should include collegiate inorganic chemistry, organic chemistry, physiological chemistry and toxicology. Inorganic chemistry should be taught for a year by lectures, recitations and a full round of required laboratory work. It should include qualitative analysis of materials in solid form and in solution, so that the student will get a certain knowledge of the nature of the elements and compounds. There should be a half year in the chemistry of the compounds of carbon, organic chemistry. Physiological chemistry would give the student the chemistry of proteids, carbohydrates and fats with reactions and composition products in the animal organism; while toxicology would explain to him poisons, their actions and antidotes. To this chemical work should be added comparative urine analysis carried on by comparative analyses of urine from the various domesticated animals, because urine analysis constitutes one of our chief means of differential diagnosis in many diseases.

Physiology should be taught by recitations, lectures and through the medium of the physiological laboratory. Frequent recitations are a means of ensuring knowledge of the subject; lectures, illustrated by the stereopticon, elucidate in a striking manner the functions of the various tissues and organs of the body. In the laboratory, by testing artificially the action of digestive juices like those of the stomach, bile and pancreas on food stuffs; or by testing the phenomena of circulation or res-

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pirations by means of instruments, he can have explained to him the functions of the organs or systems of the animal body.

Materia medica should not be taught as mere book work, or as a subject to be merely lectured upon. Extensive work by lectures and recitations should be done to be sure; but these should be supplemented by a materia medica and pharmacy laboratory, in which the student is given an assortment of many of the commonest inorganic and organic drugs used in clinical medicine, and is obliged to make notes on their nature, character, physiological action. He should make pharmaceutical preparations and close the course by compounding prescriptions, making liniments, pills, spirits, extracts, tinctures. Lastly he should be given a severe drill in posology, for definitely stated conditions, so that he can early begin to acquire the art of speedily and accurately writing prescriptions. There should be lectures and recitations in clinical diagnosis and therapeutics in which the aim should be to point out the various methods employed to restore animals to health by medical aid or by attention to unhygienic or unphysiological conditions. This can only be done by application of the principles in medical clinics.

(f) *Veterinary medicine; zymotic diseases; veterinary sanitary science; parasites and parasitisms.*

The crowning object of obtaining a knowledge of the sciences mentioned is to apply that knowledge in some form of medical practice. Hence a study of all these sciences must be made before the study of the principles and practice of medicine can properly be begun. The study of the principles and practice of veterinary medicine, in the precise meaning here understood, should include a full description of each disease to which each species of our animals is heir, together with causes, differential diagnosis, prophylaxis, medication. So large a subject cannot be covered in less than two years. The chief contagious diseases among animals caused by microorganisms, and embracing the most widely destructive scourges which it is our duty to study, cannot be entered upon until the preliminary sciences, particularly bacteriology, are mastered. While courses

in veterinary sanitary science and veterinary hygiene are to be studied that the means may be known of preventing or stamping out animal plagues. If to these, in the close of the course, a mastery is added of the subject of parasites and parasitisms which infest domesticated animals, the professional training all, subjects having been taken, may be said to be complete.

(g) *Medical themes; medical or surgical clinical reports; research theses for the Doctorate in Veterinary Medicine.*

Inasmuch as the standard of scientific writing among veterinarians is at the present time very low, there should be rigid rules that scientific students, particularly juniors and seniors, must write medical themes, clinical reports and a doctor's thesis. Two themes should be required in the junior year; two model clinical reports and a research thesis in the senior year. The themes should be essays, excellent in structure and in scientific detail, upon some point or points which have strikingly interested the student in his work; or they should be the record of some phenomena studied. The clinical reports should be complete studies and records, illustrated with drawings or photographic prints it may be, of some case which has been assigned to the student in clinic. The research theses must be thoroughgoing masterly expositions of some piece of research work which the student has chosen to do in partial requirement for his doctorate. The study of all recent literature of his subject for the doctorate should be obligatory, together with the added account of his own particular research work, pathological, bacteriological or otherwise.

Such a course as we have here marked out cannot possibly be completed short of four full years. Indeed, to complete it in four years would require full occupation of time and abundant energy. More than that, to appreciate the work in its completeness would necessitate the preliminary training of a four years' course in a high-class high school. Lest I should be accused of talking the veriest tommyrot, or investing my exposition of this educational theme with moonshine, I would point to the fact that this course is the sort of thing carried on in France, Ger-

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many and England; that the preliminary training and medical course here outlined is similar to that now required by the leading States of the Union in human medicine and by some in veterinary medicine; that there are veterinary colleges in this country which have four year courses of nine months each, or are soon to have such courses, and that the demand of the times is for just such a training. The truth or untruth of the last statement will appear in the second part of my theme.

II. OPENINGS AT THE PRESENT TIME, AND IN THE FUTURE,
FOR THOROUGHLY TRAINED VETERI-
NARIANS IN AMERICA.

I. *In private practice.*

Young men of independent spirit, tact, push, grit, now, and ever will be allured into private practice. A certain amount of business ability is needed in this kind of professional activity, together with a way of getting along with your particular kind of clientèle. That the opportunities for such men, who have an excellent professional training, is great in private practice no one doubts, especially if they can get the "cream of the cream," as the French phrase has it. There is hardly a place in the country where a man can put his foot where such a man cannot make at least a living in private practice. General practice is usually divided into country and city practice; to which might well be added canine and feline practice, and surgical practice. In the cities there is a demand for better trained men, sharp in business matters, who can modernize the methods of work and bring the professional service into a more respectable position. The cities contain many make-believe veterinarians, many of whom depend upon the game of bluff and the ways of the business sharper to get their living, rather than on downright excellent work and skill. In the cities there are some men of high attainments and high ideals, whose practice is lucrative, while their character is beyond reproach. Would that there were more of them. Professional men of character, business ability and high training, are needed in the cities. In the country there is need everywhere for men of high training, who un-

derstand and have regard for the farmer, and can be centres of intelligence among unread, hard-experienced and well-meaning men. Excellent livings can be made by the willing in the farm communities. Men who care only for dog and cat practice, or for surgery alone, must hie themselves to the cities. Men who have a liking for dogs, who are genteel always in appearance, are of excellent address, whose manners are polished, whose characters are irreproachable, who have a knack for medication and have the thorough training, need not fear to turn their steps to a city: for they can make a good living—and for more than themselves. Those who are good at surgery alone will not attain success with the same ease and with the same rapidity as the general practitioner, but their fees will be larger as they enter the road of success, and they will keep adding success to success. Born surgeons are rare. Surgeons of the highest training are sorely needed.

2. *The service of the Bureau of Animal Industry.*

There is probably no wiser planned nor better conducted branch of the federal service than the Bureau of Animal Industry. It embraces the following divisions, viz.: dairy inspection, miscellaneous, editorial, biochemic, pathological and zoölogical. In the inspection service the "eligibles have never been equal to the demand" though the salaries gradually rise from \$1200 per annum to \$2000, depending upon length of faithful service, proved fitness, gradual increase in usefulness, business ability, continued good health and good behavior. Men of widest training can do well in this service. The quarantine service needs men expert in zymotic diseases. Researchers are apt to be needed in the pathological division at Washington—but only for men of the greatest expertness and best scientific gifts; this is likewise true of the biochemic and zoölogical divisions. Many of the heads of these divisions are veterinarians. What of the editorial work of the Bureau? That can only best be done by a veterinarian who is at once a linguist, a man of literary gifts, wide scientific knowledge. Where are such men to be found to-day?

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3. *State quarantine officers ; municipal meat inspectors.*

Many States have State quarantine officers, particularly the Southern States. These positions depend somewhat, of course, on political patrimony. But soon men skilled in United States quarantine work are likely to get them. The municipalities are beginning to see that it is best for the interest of public health and as a protection from the diseases emanating from the local butchering trade that they have municipal meat inspectors. Here is another opening.

4. *State and city milk inspection.*

This is a growing part of our professional work. Veterinarians who understand animal diseases and bacteriological science are the only ones who can perform adequately the task of milk inspection.

5. *Public health officers.*

Inasmuch as only men well read in the relationships of animal diseases to the public health, who are expert in bacteriological technique and in sanitary medicine can fulfil the demands of this office, more and more, we may feel assured, the demand will be for skilled veterinarians in conjunction with human medical men, for public health officers. The two professions are mutually coöperative in this work. Some of my veterinary friends, skilled in bacteriological technique, are already installed as public health officers in large cities.

6. *Researchers in pathological institutes.*

Pathological institutes, like the Rockefeller Institute of medical research and the recently endowed institute in Chicago are springing up where a few veterinarians of the highest training can win fame and enter upon a noble career. The Rockefeller Institute recently inquired of a prominent veterinary college for a bacteriological specialist in diseases propagable through milk. But no man could be found.

7. *The college work.*

It is only with difficulty that men sufficiently trained and experienced can be found to fill chairs in veterinary medicine at the State universities and in the agricultural colleges, as gifts of

speech, gifts in research, knowledge of State work and local pests and scourges, much experience in laboratory work and in the preparation of immunizing products must be had by applicants. The applicants are many, but the desirable man is indeed a *rara avis*.

8. *The army.*

The subjects assigned by the Adjutant-General and his advisers to be tried by those desiring the position of veterinarian to the army, illustrate very well the trend of opinion in the War Department upon the kind of men thought desirable for this branch of the veterinary service. Men are demanded for the army at least well taught in every branch of the theory of medicine. None others need apply. I am informed on good authority that there are applicants for this position by the hundreds, yet out of fifteen vacancies last spring only ten could be filled from the candidates who offered themselves. The reason is manifest. A rare combination of talents and excellencies is necessary. Besides the mental fitness, the candidate must have physical strength and stamina, as well as be free from physical disqualifications and deformities. The examiners and officials become acquainted at the nine days examination with him on the social side—an engaging personality, a spirit of friendliness and bonhomie, a tendency to social pleasantries and affability, a dignity of bearing and deportment, seems to be desirable. The man must be mentally equipped, physically capable, have dignity which will command respect of enlisted men, and social ease whereby he can move among his fellows in social function or at mess. My visits to army posts convince me that though the mills of the gods at Washington move slowly, nevertheless the outlook is bright for the army veterinarian. America has a way, such is her pride, of always going “one better” to Europe if she can. Eventually there will be a veterinary corps, and this corps will be certain to have as much value to the service and have as high station and as good pay as the corps in the British and German armies to-day. We of the veterinary profession must come to look up to the army veterinarian as our

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pride, for we expect much of him. If he is not lethargic he will help us much in research and in the prevention of animal plagues; for to him we look for certain knowledge on such diseases as surra, nagana, mal de caderas and dourine; we expect him to prevent the introduction of rinderpest; we expect him to do as much for us as veterinary Captain Smith, veterinary Colonel Nutt and chief veterinary Colonel George Fleming did for the British army.

* * *

My task is done. The unprejudiced mind must now be convinced of the necessity for higher standards of veterinary education. When we remember our export trade in animals and animal products in 1902 was \$254,204,993,* who will say that the best veterinary care should not be assured to such animals? With an animal industry of such magnitude; with a close relation of our work to the public health; with a crying need for research in animal diseases; with a proved utility of the profession growing and widening; with the day of ignorance and chicanery in medical practice passing; with a demand of the people, the States and the army for better men; with the organization of State veterinary societies and pressure upon infamous charlatans—who, now, will say that the standard of veterinary education should not be raised? Our title would be a proud one, if we would have it so, "Veterinarian and Scholar."

SENSITIVE HORSES.—The horse does not like a nervous, fidgety, fussy or irritable man. He is too nervous and irritable himself. "Why is it," one teamster was heard to ask another, "that Phin's horses are always gaunt? Phin feeds well." "Yes," was the reply; "but he's like a wasp around a horse." A well known owner of race horses, not at all a sentimental person, recently made an order forbidding his employés to talk in loud tones or to swear in the stable. "I have never yet seen a good-mannered horse," he says, "that was being sworn at all the time. It hurts the feelings of a sensitive horse, and I keep my word good to discharge any man in my employ if I catch him swearing within the hearing of a horse in this stable."—(*Mail*.)

* Bureau of Animal Industry. Report, 1902. P. 488.

CONTAGIOUS ULCERATIVE LYMPHANGITIS.

By C. H. JEWELL, D. V. M., VETERINARIAN 13TH U. S. CAVALRY,
MANILA, P. I.

This peculiar tropical disease of horses was unknown to American veterinarians prior to the occupation of the Philippine Islands by the Americans, and the only literature I have been able to procure upon the subject has been the articles published in the REVIEW, written by the army veterinarians serving in the Philippines. I can readily see how those inexperienced might mistake it for glanders of the farcy form, or even nasal, when the ulcers have extended to the Schneiderian membrane or involved the sub-maxillary glands, as I have seen it in a few cases; yet there is a difference in the general symptoms, which one can hardly mistake after seeing a few cases, and one can determine fully by microscopic examination, as the army veterinarian in the Philippines is now supplied with a good microscope, a thing which took the War Department a long time to be convinced we were in need of and capable of using. Had microscopes been supplied sooner, many thousand dollars could have been saved to the Government.

This disease has been poorly named, since it does not take on the usual form of a lymphangitis, but primarily attacks the epidermis. "Contagious Ulcerative Dermatitis" would be more appropriate, in my way of reasoning, than the name given it by English veterinarians in India.

The cause is now known to be due to a cryptococcus, one of the forms which some writers claim to be parasitic. Some recent writers class this variety as the blastomyces. Their morphology is like the yeast fungi, and, without knowing their source, one by microscopic examination would be unable to differentiate between the two. They can be easily stained with the aniline dyes, showing in bold relief, with the pus corpuscles, which accompany a smear taken from the discharge of the ulcers.

The symptoms of this peculiar disease are somewhat similar

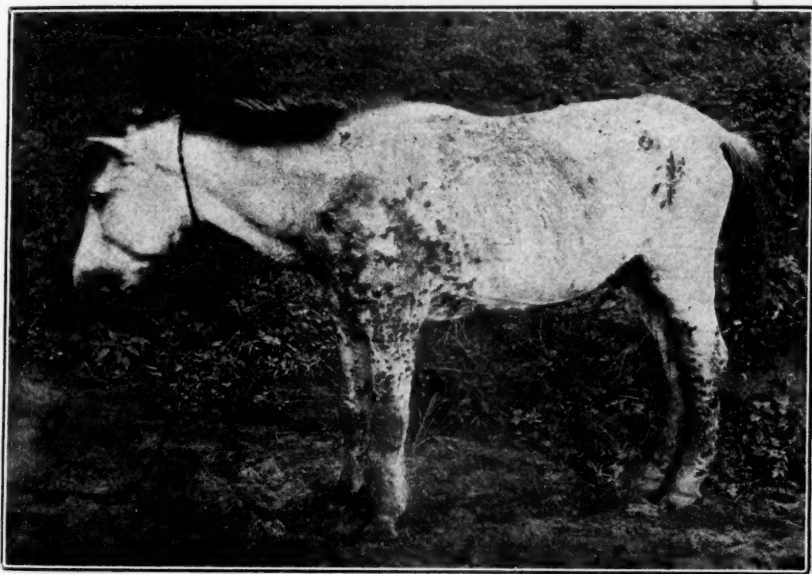
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to farcy-glanders when the primary lesion is located on the inside of the hind leg or region of the sub-maxillary glands, yet it lacks the sudden cord-like swelling seen in the former, is not so painful to touch, and in the latter we do not have the sudden rise of temperature and rapid emaciation seen in glanders, also the animals do not react to mallein. The primary lesion may start on any part of the body surface, and spreading therefrom by contiguity rather than by the lymphatics. If in region of the head, the sub-maxillary glands become enlarged, and may break down and suppurate or the ulcers spread to the side of



View left side, showing the large areas of skin affected, also the enlarged maxillary lymph glands.

the cheek, and later extend to and attack the mucosa of the nostrils, Schneiderian membrane. In rare cases metastasis takes place, and the internal organs are the seat of lesions, lungs, liver and spleen.

In the advanced stages the animal may be affected over the entire body surface with ulcers, and greatly emaciated. In such cases an early death is the outcome.

The ulcers start as a hard swelling, covering considerable area as a rule, and in one or more places small elevations the size of a 50-cent piece rise up. These are not very painful upon touch. Sooner or later they break upon the surface if not opened with a knife. The discharge is of a thick glutinous nature, creamy white color at first and later may take on a straw color after discharging for a few days. The part may be cupped at first and later raised owing to the formation of connective tissue. These ulcers are very resistant to ordinary treatment,



View taken from right side showing the ulcers on cheek and running into the nostrils, also the ulcers of the sheath.

which was one of the reasons which led those first meeting the disease to believe it to be farcy. Accompanying this article is a photograph of a native Filipino pony suffering from this affection in the advanced stage; nearly the whole body surface was the seat of the disease, the scrotum and sheath being involved. The former is claimed by some writers never to be involved. A mass of ulcers on the right cheek extended to the Schneide-rian membrane and one veterinarian had already diagnosed the

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case glanders. The animal was badly emaciated when I first saw it. He was placed in quarantine by the Board of Health under advice from me, dying after about two weeks. This is the only one I have seen die from the disease.

I believe the malady highly contagious to horses, and spread by flies passing from infected animals to others biting them or contaminating sores and abrasions of the skin. Another means of its spread is by brushes used on horses affected and not rendered sterile before using upon sound animals. In one stable I had a case which had been in contact with the other horses for some time and later two other horses standing near became infected. Isolation and disinfection prevented further spread.

The treatment should be energetic from the start. Complete isolation and disinfection of stables, combs, brushes and all materials which may have come in contact with diseased animals. The hair should be clipped from around the primary lesion, the ulcer opened if not already broken upon the surface, curetted and dressed daily with tincture of iodine and a dusting powder applied. For the dusting powder alum, tannic acid and acetanilid is very effective in drying up the discharge.

I have tried the actual cautery, but it does not have the effect usually seen in chronic ulcers from other causes.

If the iodine does not prove efficacious I get good results from the following:

R Corrosive sublimate, 3 ii.
Salicylic acid, 3 iv.
Alcohol, 3 iv.

M. Sig. Apply daily to the ulcers.

At the same time using the above mentioned dusting powder.

Before using either of the above remedies the parts should be thoroughly washed and all scabs removed so that the dressing can be applied to the bottom of the ulcers.

To prevent spreading of the primary lesion, I use with good success hypodermic injections of tincture of iodine beneath the skin surrounding the affected area and at the same time into the tissues beneath the ulcer.

A FEW CASES OF INJURY TO CATTLE FROM SWALLOWING POINTED OBJECTS.

BY DR. H. M. GOHN, ST. JOHNS, MICH.

Read at the Meeting of the Michigan State Veterinary Medical Association, February 4, 1904.

In reading this paper I do not claim to present anything new on the subject. It is my aim merely to mention a few cases I have seen, hoping a profitable discussion might follow. Many cases are on record of different articles that have been swallowed by cattle producing more or less serious conditions. Among articles that have been found are hair-balls, pieces of wire, needles, nails, etc., which might easily be taken in with food, but there is another class of objects, much larger, the swallowing of which to me seems only to be explained by the theory of a depraved appetite or that curiosity which seems to make it natural for some cattle to sample any unusual object that comes within their reach.

In the Report of the Bureau of Animal Industry of 1893-4 is a list of articles found in stomachs of cattle slaughtered for beef at the stock-yards in Chicago, also the report of post-mortems on two tuberculous herds, showing many of them with unsuspected lesions of internal organs caused by wires, nails, etc. Our journals contain frequent reports of such cases.

Case No. I.—Cow, tympanitic with eructations; constipated, heart weak and irregular. A cathartic was given, followed by stimulants, and the animal improved. I saw it but once, but the owner reported that a few weeks later she died suddenly and that he examined the internal organs and found two slender pieces of bone penetrating stomach walls, one of which reached, as he said, to the "heart sac."

Case No. II.—Jersey cow; had apparently been in good health; owner one day noticed her groaning. I was called—found the animal affected with pleuro-pneumonia and suggested traumatism. After a few days the animal died and the post-mortem revealed a number of pieces of wire from two to four

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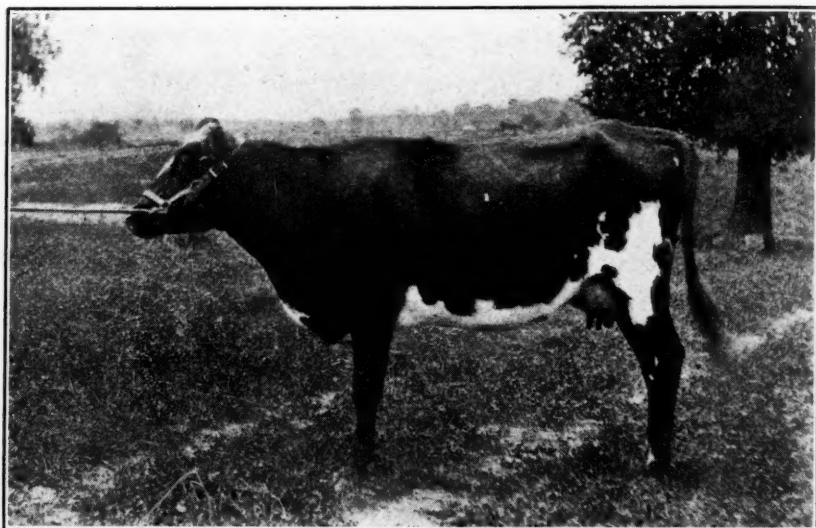
inches long in stomach, besides several small wire staples. In the centre of an adhesion to diaphragm was a black line which I believe marked the course taken by a wire probably similar to those found in stomach. The lungs presented hardly any healthy portion, being in places purulent-gangrenous. Many adhesions of pleura were found as well as much offensive fluid in pleural sac. The pericardium was much thickened, presented adhesions and contained much purulent matter. I made many incisions in the lungs and heart, but failed to find any foreign body. Possibly it may have completely eroded. The organs were in too offensive a condition to examine minutely.

Case No. III.—A cow would not eat and rumination was suspended—a little blood mixed with saliva. The animal lingered some time and was finally killed. On post-mortem I found a twisted nail in the rumen, and in the œsophagus, just below pharynx, a laceration about 3 or 4 inches in length.

Case No. IV., and which really prompted the writing of this communication, was first seen on May 16th last. The animal had calved two days previous. She was slightly bloated and grunting. My attention was drawn to a small lump on her left side in next to last intercostal space. The skin was held up as if by some pointed object. There was no sign of skin having been injured; the rib on either side seemed intact. The prominence could be raised, but would sink back on letting go of it. This caused pain and an emphysematous swelling developed.

I told the owner that the substance, whatever it was, should be removed, but was cautious about giving an opinion as to its nature, telling him, however, that we might be surprised. I need not say we were, when on making a small incision there appeared a small metal knob, and I readily drew out this umbrella rib, 25 inches in length. I at once closed the opening and directed them to apply a sack of crushed ice to the side. The cow recovered rapidly, though a small abscess formed just beside the point where the rod was removed, and when I last saw her, June 9th, appeared in good health and the owner said was giving 11 quarts at a milking.

In trying to get a history of the case, I learned that on May 5th the boys brought home an umbrella frame. They saw the cow chewing at it and, as they supposed, removed it all from her reach. The cow coughed almost continuously that night and quite noticeably for several days, but no particular attention was paid to it. When removed the groove in the rod contained partially masticated food and had the peculiar odor of stomach contents.



In the picture the larger spot on the side shows where I made the incision. The smaller one, where suppuration occurred a few days later.

THERE are three times as many animals as men in the United States, their total value being \$3,200,000,000.

WAYNE MACVEAGH, the lawyer and diplomat, has on the outskirts of Philadelphia an admirable stock farm. One day last summer some poor children were permitted to go over this farm, and when their inspection was done to each of them was given a glass of milk. The milk was excellent. It came, in fact, from a \$2,000 cow. "Well, boys, how do you like it?" the farmer asked, when they had all drained their glasses. "Gee! Fine," said one little fellow. Then, after a pause, he added: "I wisht our milkman kep' a cow."

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EXTREME SUSCEPTIBILITY OF ARCTIC ANIMALS TO TUBERCULOSIS.

By CECIL FRENCH, D. V. S., WASHINGTON, D. C.

In a recent report on the health of the wild animals in captivity in the New York Zoological Park (April 1st, 1903,) Harlow Brooks, M. D., the pathologist of the institution, in his reference to tuberculosis amongst the animals, mentions the death of a musk-ox and remarks on the special interest attached to the case, in view of the fact that the creature came recently from the arctic regions, where tuberculosis is unknown. He also quotes Lieutenant Peary's experience with the Esquimaux who accompanied the latter officer to this country and contracted tuberculosis within a few days after landing.

I have had a similar experience recently with some wild swans of the whistling variety (*Olor columbianus*). These birds breed in the far north and migrate to the Carolina Sounds during the winter months. There they are often wing-tipped by local sportsmen and captured alive. They are then usually confined in poultry pens and sold to persons interested in possessing wild birds. In this manner I obtained some twenty of these birds last winter and sent a large proportion of them to Europe to stock a collection of wild fowl there. The birds were in captivity in the poultry pens about a month and were in my possession a somewhat shorter period, and at the expiration of the same length of time after arriving in Europe, succumbed one by one to tuberculosis.

These birds evidently contracted the disease in the poultry pens very quickly after being captured, and probably became infected with the avian variety of the bacillus. It is not likely they contracted the disease whilst in my possession because they were kept on virgin soil, so far as contamination by tubercle bacilli was concerned. The dead birds were examined by Mr. Thompson, of the London Zoological Gardens, and it was from him that I received the report of the nature of the disease to which they succumbed. One or two of the birds died in this country, but no examination was made of them.

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

A CASE OF MALIGNANT LYMPHADENOMA IN A DOG.

By CECIL FRENCH, D. V. S., Washington, D. C.

The disease in question, variously termed *malignant lymphadenoma*, *Hodgkin's disease*, and *pseudo-leukemia*, is characterized by progressive general hyperplasia of the lymphatic glands. In this respect it has features in common with leukemic lymphadenoma (*splenic leukemia*) and lymphosarcoma. In fact, the dividing line between lymphadenoma and lymphosarcoma is absolutely vague, as again between lymphadenoma and leukemic lymphadenoma. Where the growth remains within the capsule of the lymphatic glands, then the term lymphadenoma or Hodgkin's disease may be applied. Where accompanying such glandular overgrowth there is increase in the lymphocytes in the blood, the condition is one of leukemic lymphadenoma. And where the excessive growth of the lymphatic tissue goes on to infiltration and metastases, it is lymphosarcoma.

My attention was recently directed to a three-year-old skye terrier, male, of very high breeding, with the following history: The present owner had held the animal in his possession some two years and had noticed nothing amiss with its health until within the last two months, when he observed it to be acting in a lethargic manner with a disinclination to mount steps or travel far. Its appetite was also capricious. He mentioned in addition to these symptoms that it had a hard swelling in the throat.

On examining the animal I found the swelling to be a symmetrical enlargement of the submaxillary lymphatic glands of the nature of a lobulated mass, which was free from sensitiveness and freely mobile without adhesions to the surrounding tissues. Similar enlargements also existed in the axillary and inguinal regions. The abdomen was considerably distended, and by palpation an intra-abdominal mass could be distinguished in the position occupied by the spleen. The temperature was 102.2° F., the pulsations 125 to 135 (the animal being excited whilst under examination), and the breathing quickened upon movement about the room. A blood-count showed the following condition:

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* Present

Number of red corpuscles per cubic millimeter, 5,033,000.

Hæmoglobin, 77 per cent.

Number of leucocytes per cubic millimeter, 8,530.

Proportion of white to red corpuscles, 1 to 590.

Relative proportions of leucocytes:

Small mononuclear, 22; polynuclear, 70.

Large mononuclear, 8.

The diagnosis was therefore, malignant lymphadenoma, since the proportion of white to red corpuscles was about normal.

There is no treatment possible for this disease, and the prognosis was therefore unfavorable. A fatal termination usually ensues in the course of one to two years. There is every prospect of an interesting post-mortem examination, and if such can be effected, the observations will be recorded in the REVIEW at some future date. It is possible that the disease in its present form may undergo transition into the true leukemic condition.

ANOMALIES FOUND IN PRACTICE.*

By R. R. HAMMOND, V. S., Alta, Iowa.

I have a short report of a couple of cases which came before me in my practice, and thought them of interest enough to report to your meeting; have never met the same conditions before and have never seen them in print, in any text-books, and hope that they may be of some interest to the profession.

Malformation of Uterus in Heifer.

In Jan., 1903, while practicing at Alta, was called one very cold night to see a heifer, which owner stated had shown some signs of labor pains for some twenty-four hours or longer. On reaching the place I found a very fine Hereford heifer, two years old, showing signs of labor. After making examination, found the head of the foetus in natural position, but could not find the fore limbs, but upon more diligent search found the fore limbs extending under the vagina, superior to the pelvic bones. On further examination could feel one foot passed to the lower part of the vulva and could feel it through the skin externally. I showed it to the owner and our assistant and let them feel it from the outside. The other foot passed as far as the meatus opening, the other passing to the side and extending as above, to the lower part of the vulva. As the foetus was large, and had been dead some little time, secretions being somewhat dried up, we had some little difficulty in getting the limbs

* Presented to the meeting of the Iowa State V. M. A., Jan. 27, 1904.

back in position to enter the vagina. The new uterine extension started just anterior and under the os uteri. Had expected an injury when I first found them in this position, but upon examination found the passage a natural one, and lined with mucous membrane. We got the foetus started nicely, but when the hip joint of the foetus struck the new opening it inverted or tore out the covering of the new cavity. The cow bled profusely and had to be destroyed.

Malformation in a Cryptorchid Colt.

The next case was that of a cryptorchid colt, two years old, about 800 pounds weight, but so ugly could do nothing with him, especially near other horses. One testicle was taken as a yearling, the right one retained. In the fore part of June, 1903, was called to castrate this colt, to get the other testicle, or kill him. With my mind made up for a nice little job and a good fee, nice easy money, I went out and killed him. After casting and securely tying him, I began cleaning and disinfecting the scrotum, made my opening and proceeded to pass my hand down the inguinal canal. I searched for the internal inguinal ring or some trace of it, but did not find it, and to break through those muscles was a task. It took me fully ten minutes to get two fingers through the muscles, and after getting through began to search for the cord, testicle or something, but found no clue to the hidden testicle. After having the horse down for some little time, I gave up, very much disappointed.

The colt was in pretty fair condition for the time he had experienced, but the owner was very much disgusted and took very little care of the animal, except to feed and water him. I left, leaving instructions that should the colt die, I should be notified by 'phone. In four days I got word that he was dead, and proceeded out to hold post-mortem.

Post-mortem:—There was a mass of adipose and fibrous tissue, about six inches square, on the right anterior middle part of the pelvic cavity, one-half extending forward on the muscles and firmly attached to the wall, a surface of five inches square. This contained the floating colon and testicle, both being imbedded in the mass. The testicle was of medium size and well formed for a cryptorchid.

DISCUSSION.—C. E. Stewart remarked that if it was impossible to castrate a ridgling owing to enlargement or to adhesions, it is best to take out a section of the vas deferens. He spoke of a number he had operated on in this way, and all were satisfactory.

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A FRACTURED ISCHIUM PUNCTURES THE BLADDER—A URINARY
ASCITES—ABSENCE OF SYSTEMIC SYMPTOMS.*

By S. H. BAUMAN, D. V. S., Birmingham, Iowa.

January 13th, 1904, I was called by 'phone to a three-year-old gelding, owned by Mr. Edwards, of Stockport, Iowa, with the information that horse was badly bloated. I arrived about midnight, but found, instead of flatulent bloat, as expected, the abdominal cavity filled with fluid and very much distended. Mr. Edwards also informed me that the horse was lame in right hind leg. He noticed this about ten days previous to my call, had the horse in barn for over a week and during that time had passed no urine. They had given him spts. nitrous ether, resin, etc., but with no results. The horse stood, most of the time, in a distended position, as if trying to urinate, but no straining ensued. He had been eating usual supply of hay and grain and showed little, if any, distress. During time horse was stabled, had failed to lie down.

Upon examination, I found the pulse 76, temperature 103.2, breathing almost normal. Upon examination of rectum found bladder hard and reduced so that it felt like a tumor about the size of a base-ball. I also found the shaft of the ischium fractured, extending into the inferior portion of the acetabulum. Informed owner of the condition and advised animal destroyed. Next morning after making careful examination to confirm diagnosis of night before, we had horse out in the field. Horse showed little trouble while walking with exception of a peculiar outward swing of leg, which we always have in these cases. Horse picked grass and seemed to be in good shape. Post-mortem showed complete fracture of ischium, fracture of inferior edge of acetabulum, and a complete fracture of the ileum. No injury to the greater part of the acetabulum or the articulation proper. There was no swelling, pus, or inflammatory condition of the surrounding tissues, and nothing from outward appearances to show any trouble more than that the horse was lame, which they supposed was due to a sprain. Upon opening the abdominal cavity, found it filled with fluid, which upon examination was composed, largely, if not wholly, of urine. We estimated between 30 and 40 gallons of this fluid in the abdominal cavity. The bladder was found to be about the shape of a large coffee cup, the walls thickened to fully one inch and resembling the consistency of a tumor. On the right side, about the mid-

* Presented at meeting of Iowa State V. M. A., Jan. 27, 1904.

dle, was a puncture into the bladder, which from thickening of walls, stood open, and was one and one-half inches long by one-half inch wide. Upon further examination of fracture of shaft of ischium which was broken in a diagonal manner or very much of the nature of a split about seven inches long, I found that the internal speculæ of this broken shaft had turned inward and punctured the bladder, and in the movements of the horse, had been withdrawn and finally had gotten back nearly into position again. The stomach, intestines, liver, spleen and fat on the intestines all showed a healthy condition, with the exception of the faded appearance one always finds when these organs are soaked in water.

To me this was a very interesting case. How could a horse live for ten days, and still be in good condition? Why was there no inflammation or external swelling due to this double fracture and mangling of bones and tissues surrounding the same? Why no blood in urine from puncture of bladder, and why did we not have uræmic poisoning? We can easily advance theories. I wish to say further that there was scarcely any crepitation audible during external examination, and by placing ear to hip while horse was walking this crepitation was absent.

AMPUTATION OF THE PENIS OF THE HORSE.*

By P. MALCOLM, V. S., New Hampton, Iowa.

In answer to a call by letter to examine a gelding, which the owner explained was suffering from some disease of the penis, on examination I discovered that the horse was suffering from a cancerous degeneration of the penis, which presented a very dirty appearance. I advised the owner that the only thing to do was to remove the diseased portion, as the disease would ultimately involve the whole penis and cause death of the horse. To this he willingly consented, saying, "I am tired of local treatment." As the horse had not been prepared for the operation, we decided on a later date, and I instructed him as to the preparation of the patient, which consisted in giving the horse a laxative and keeping him on short rations for twelve hours prior to the operation.

Operation.—Passed an oiled catheter to remove the contents of the bladder, which was accomplished with difficulty, as the cancerous degeneration had destroyed the distal end of the urethral canal. The patient was cast and anæsthetised. The penis was

* Presented to the meeting of the Iowa State V. M. A., Jan. 27, 1904.

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withdrawn to full extent and thoroughly disinfected with bichloride solution, 1.500. The catheter was then passed beyond the seat of the disease and a bandage applied around penis, commencing just above the diseased part and extending to the prepuce, using sufficient tension to keep back the circulation. An ordinary twist was used by passing the nose loop around the bandaged penis up to the prepuce, then tightened sufficiently to hold the penis from retracting and to prevent hæmorrhage. A portion of the bandage was then removed, commencing at the lower end and unwinding up to about two inches above the place decided upon to amputate. Then with the scalpel an incision was made through the skin about two-thirds the circumference of the penis. Other incisions were then made from either end of the first incision in an oblique direction, until they met about two inches back of the circular incision. Then dissected down on the dorsal artery, exposing about two inches, placed a ligature at each end of the dissected portion. The skin and tissue lying between the oblique incisions was then dissected out, exposing the urethra as far as the circular incision; from this point about one inch of the urethra was dissected free from the surrounding tissue and cut through. The diseased portion was then removed by cutting through the fibrous portion and the dorsal artery between the ligatures. The catheter was now removed and the grooved director passed into the urethra with the scalpel. The urethra was divided up to the junction of the oblique incisions. With a curved needle and silk thread the divided edges of the urethra and skin were brought together, using what might be termed an interrupted and uninterrupted stitch or a combination, *i. e.*, pass the thread through the same as you would to make an interrupted stitch, tie a knot, take another stitch without cutting thread, and so on until you have taken four or five stitches in the urethra and skin. The skin was then brought together over the stump in like manner, leaving about eight inches of the thread with the dorsal artery ligature attached. In using this kind of stitch there is no trouble in removing the stitches. A dry dressing was used, composed of boracic acid and iodoform.

After-treatment.—Kept parts clean by douching prepuce two or three times a day with a carbolic acid and cold water solution, 1.500.

DISCUSSION.—J. H. McNeill prefers to put rubber band on. W. A. Heck and C. J. Hinkley report no danger of stenosis of the urethra or from hæmorrhage without ligating.

ABSCESS OF THE ANTERIOR MEDIASTINUM.*

By DR. N. A. CHRISTIANSON, Luverne, Minn.

The subject of this article was a stallion colt, about eighteen months old. My attention was first called to this colt in the fall of 1902, after it had been broken to drive. He had been given considerable work in breaking, and when I was called to see him, he showed lameness in the left front leg, resembling shoulder lameness. As there were no external symptoms to indicate the cause, I advised them to place the colt in a box-stall, where it seemed to improve. I had occasion to see the colt again in the spring of 1903, when it showed some stiffness of the neck and difficulty in lowering the head to the ground, and I suspected fistula of the vertebræ. During August, 1903, the attendant informed me there was a change in the colt, and found it was breathing with difficulty, and had been in this condition about two days. As the temperature was only 101 and the appetite good, I decided there must be some pressure causing the difficult respiration. Two days later the colt died, and post-mortem revealed an abscess in the anterior mediastinum, due to an injury of the vertebræ. The base of the abscess was resting on the trachea and the contents had depressed the superior portion, forming a basin. On opening the abscess, which was about ready to break into the trachea, I found a large quantity of pus. I will leave you to draw your own conclusions regarding the cause of the lameness. The very close proximity of the brachial plexus would be a reasonable theory for its cause.

DEATH OF DR. RALPH W. HALL.—Just as the forms for this number of the REVIEW were closing we learned with much regret of the death of this well-known and successful veterinarian, which occurred on March 24. He had been located in the famous Bull's Head section of New York city for more than twenty years, where he had established a very large practice. Dr. Hall graduated from the American Veterinary College, class of '80, and was a business partner of Dr. R. W. McCully. There is probably no man in this country who has had a greater experience in the treatment of the ills of "green" horses than Dr. Hall. He was a genial, big-hearted, companionable man, and an earnest and loyal veterinarian. The deceased was about 46 years old, and is survived by a widow.

* Presented to the Meeting of the Minnesota State V. M. A., Jan. 13 and 14, 1904.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By ADOLPH EICHHORN, D. V. S., Bureau of Animal Industry, Milwaukee, Wis.

CONTRIBUTION TO THE THERAPY OF HÆMOGLOBINÆMIA OF THE HORSE [*Seitz*].—Following the theory that hæmoglobinaemia is due to a glycogenic separation or secretion, Seitz founded his therapy on cases which he treated, by which he not only hoped to alleviate the paralytic symptoms, but also to restore the loss of glycogen. In one case, a horse eight years of age, after a few days' rest, and being richly fed, got sick; another three-year-old mare manifested the symptoms of hæmoglobinaemia during a drive, and could only with great labor be brought home. The animals were down, showed labored breathing, profuse perspiration, made unsuccessful attempts to rise, the hind quarters being paralyzed. The author prescribed 50 to 70 gm. of bromide of sodium to be given in one litre of water, and the skin well rubbed; by means of a catheter the bladder was emptied; the urine at this time was of a coffee color, and after standing 12 hours, there was no sediment. Half an hour after the bromide was given the author gave one pound of cane sugar, which he ordered to be repeated hourly for four doses. After 12 hours the whole medication was repeated. The urine was yet unchanged. After a further delay of 12 hours, the sugar doses were repeated; the urine was now somewhat clearer; after a total of 36 hours, the urine was of a clay color. The animals after urging were able to rise upon their feet, not showing any paralytic symptoms. During the course of the disease the animals were turned from side to side, rubbed, and light food and water was given.—(*Berl. Thier. Woch.*)

EXPULSION OF THE FŒTUS AFTER DEATH.—In human medicine it is said that the birth of a child occurred after the death of the mother, probably coffin birth. The motive powers which caused the expulsion of the child were probably the putrefactive gases within the abdomen. Seifert reports in the *Journal of Vet. Science* one such case of a mare, which was in the ninth month of pregnancy. The animal died one evening as a result of colic. The following morning there was found an expelled foetus lying behind the mare. A similar case is com-

municated by Dr. Bleisch, to the *Journal for Legal Medicine*. A cow was shot by mistake, and while the carcass was undergoing the process of evisceration, there was a perceptible movement in the abdominal region. After a lapse of a few seconds a lively calf came forth to light.—(*Berl. Thier. Wochenschr.*)

CONCERNING THE EFFECTS OF FEEDING THE MILK OF TUBERCULOUS ANIMALS [*A. Michelazzi*].—The author made numerous feeding experiments on lambs, calves, and guinea-pigs, with the sterilized milk of tuberculous cows and sheep. He came to the following conclusions: (1) That the milk of tuberculous animals contained no tubercle bacilli when the mammary glands were perfectly free from the disease, but only contained the tuberculous toxines. This milk caused a chronic intoxication on the animals when fed for a long period. (2) The sterilization of the milk at 100° C. was not sufficient to destroy these toxic substances, as Mafucci has proved tuberculous toxines resist for a long time the temperature of 100° C. On the ground of these facts the author advises abstaining from the prolonged use of the milk of tubercular cows, even when sterilized.—(*Annali d'igene sperimentale.*)

DRYING FOOD IN HIGH TEMPERATURE AND ITS INFLUENCE ON THE DIGESTIBILITY OF RAW PROTEINS [*Dr. J. Volhard*, extract by J. Weiser].—The influence of higher temperatures on the digestibility of different food materials, was experimented upon by several scientists; however, a proper method and uniformity in the execution of these experiments was not followed until lately the Animal Physiological Institution of Moeckern took up this question extensively. The experiments of Volhardt, which extended over 12 different food materials, were made chiefly to determine what influence the higher temperature has on the digestibility of raw proteins. To determine this, he established the quantity of the raw protein, in the original food materials, also in the samples; then he exposed them for 48 hours to a temperature of 40°, 60°, and 100° C., after which he determined the quantity of the digestible proteins with pepsin-hydrochloric acid. These experiments gave the following results: The digestibility of the proteins is diminished in proportion to the high temperature to which they have been exposed for drying. The drying, up to 60° C., has only slight effects on the digestibility of proteins, but higher temperatures than this—for instance, steaming—results in considerable differences. Not only is this the case in natural food materials, but also in such artificially manufactured food, which

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in their preparation were exposed to higher temperatures, a repeated drying of these diminishes the *digestibility of the raw proteins*.

LOCALIZATION OF TUBERCULOSIS AMONG MEAT CATTLE IN MOSCOW.—According to J. Kowalewsky, by means of abattoir statistics, the frequency of tuberculosis among cattle in the Moscow abattoirs is estimated at 7.06 per cent. During the years of 1898 to 1900, there were 654,038 cattle slaughtered, of which 45,891 were affected with pearl disease. From 1895 to 1898, among the slaughtered cattle, 74,381 were affected in the same manner. The following numbers give the relations of the tubercular lesions: (1) The lymph glands of the lungs were affected in 94.5 per cent.; on the serous surfaces (membranes), 7.2 per cent.; in the internal organs, 25.1 per cent.; (2) In the head and region of the neck, 56.1 per cent.; in the general coverings, muscles and skeleton, 1.4 per cent.; in the abdominal cavity, 15.1 per cent. From the carefully detailed statistics of the localizations in the individual organs, it is worthy of mentioning that tuberculosis is most frequent (60.3 per cent.) in the retropharyngeal lymph glands. The next frequent place is the bronchial glands (60.1 per cent.); the third, the mediastinal glands (30.9 per cent.); then come the lungs (23.7 per cent.). Tuberculosis of the udder was found only in 27 cases, relatively 0.03 per cent.—(*Pizeglad Weterymarski*.)

ITALIAN REVIEW.

By Prof. A. LIAUTARD, M. D., V. M.

LAMENESS OF THE SHOULDER AND OINTMENT OF GARLIC [*C. Fabrelli*].—Whether garlic is as irritating externally as it is internally, its application in veterinary medicine is not common. The author has used it on several occasions already, and again in the shape of an ointment has obtained a very good result as a counter-irritant in a case of shoulder lameness. The subject had been lame for some time; he had been treated by the owner for lameness of one leg, then of the other, and finally was placed in the hands of the author, who ordered frictions with garlic ointment, with massage over the shoulder of the lame leg, repeated twice a day for six or seven days. After a week of treatment, improvement was well marked, and complete recovery took place a few days after. Two years have elapsed, and there has been no return of the lameness.—(*Giornale d'ipologia, Oct., 1903.*)

LONGEVITY IN ANIMALS.—Statistics teach us many queer things in relation to the duration of life in animals, so many of which are victims of man. The horse and donkey may live up to 35 years; cattle have reached the age of 30; the dog 25; sheep, goats, swine and cats, 15; rabbits, 8 to 10; the goose, 30; ducks, chickens, turkeys, 12; raven, 100; elephants, 100 to 200 years. But the animal which holds the record of longevity is the turtle. There was one which weighed 40 kilogrammes, was born in 1750, and to all appearances will live 100 years longer. It was spoken of in 1810 in a Paris journal, and was bought by Rothschild for the London Zoölogical Garden.—(*Giorn. della R. Soc. Veterinaria, Nov., 1903.*)

PERFORATION OF THE ŒSOPHAGUS BY FOREIGN BODY—QUICK FATAL TERMINATION [*Dr. Arturo Soprana*].—One evening after returning from pasture a steer seemed sick; he was very dull, refused all liquid and solid food. The owner attributed this condition to an excess of work and the great heat. Nothing was done. The next morning, however, the animal exhibited alarming symptoms, which demanded immediate attention, and the author was called. He found the animal standing, with its head resting on the hay-rack, the eyes fixed, and moaning with great pain. The surface of the body and the extremities were cold; the temperature almost normal, respiration painful, deep and rather accelerated. The animal does not care to move; if he does, it is with difficulty and pain. He frequently assumes the decubital position, which seems to give him ease. At the examination of the heart, the sounds are found much louder, and each contraction can be seen at a distance. The beatings are irregular and intermittent, sometimes for seven or eight seconds. Nothing peculiar on auscultation. The diagnosis is difficult, although by the general aspect a cardiac lesion is suspected. Of what nature? Possibly traumatic. The animal dies the same day. At the post-mortem the pericardium was found normal; the muscular structure of the heart and the valves were also healthy. The musculo-nervous centres were then examined from the heart towards the head. On a level with the fifth cervical vertebra, alongside the Œsophagus, a collection of yellow, creamy pus was found, the size of a big nut, and surrounding the vasculo-nervous fasciculi of that side. In the centre of this abscess there was the hook of a small ear-ring. The abscess was in direct communication with the lateral wall of the Œsophagus, which presented a longitudinal solution of continuity. The foreign body had made its way out of the

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cesophagus and by its presence given rise to the abscess; and by its presence the functions of the bloodvessels and nerves had been interfered with, giving rise to the symptoms which had been displayed during life.—(*Clinica Veterinaria*, Nov. 7, 1903.)

PSEUDO-MEMBRANOUS DIARRHŒIC ENTERITIS IN A STEER [*C. Fabretti*].—A team of steers were well fed and sent to market. Not being sold, they were taken home, when one began to be ill. For three days he refused his food, and in the evening was taken with violent diarrhœa. On the fourth day the writer was called. He found the animal suffering with profuse diarrhœa, very fœtid. The partitions of the stall were covered with its green, filthy products. The farm hand, who took care of the steer, reported that he had found in the gutter, mixed with the fæces, a piece that looked like sausage. It was a piece of false membrane, representing exactly the conformation of a portion of the intestines; it measured 50 centimetres in length. The treatment consisted in the administration of three doses of 12 grammes of protosulphate of iron, each with a little emetic and calomel. The next day the animal eat and ruminated, and had no more diarrhœa. During the night he had passed another piece of intestine, longer than the other. Without further treatment the animal got well. The object of this publication is to call attention to the good effects and results obtained by such an old drug as the protosulphate of iron.—(*Il Nuovo Ercolani*, Nov. 5, 1903.)

PROLAPSUS OF THE UTERUS—AMPUTATION—RECOVERY [*Dr. Vita Zagarrio*].—A female donkey which had two days previously given birth to a living colt, and had had violent expulsive efforts afterwards, had as a consequence prolapsus of the uterus. Through the vulva there protruded an enormous tumor, hanging down to the hock. Much bruised and lacerated by improper manipulations and injured by the pricking of many fowls living in the same barn. The animal was comparatively quiet, her pulse and respiration normal, her temperature 39.01. As reduction was almost impossible, amputation was resorted to. The animal was cast, with her hind parts raised, so as to operate more easily and reduce what portion of intestine might be involved in the prolapsus. The uterus was cleaned, thoroughly washed, and supported by assistants on a wide piece of cloth. So as to reduce the whole mass and remove from it a large quantity of the blood, preventive hæmostasis, Esmarch's method, was resorted to with a bandage dipped in a solution of

perchloride of iron. This was repeated four times, and being assured that neither bladder nor intestine was involved in the prolapsus, a strong ligature, well disinfected, was applied at the base of the vagina. When the traction upon the ligature had been judged strong enough to arrest all hæmorrhage, an ordinary surgeon-knot was made, and the amputation occurring four centimetres back of it, the protruded part was removed and the stump returned into the pelvic cavity. A little escape of blood was arrested with perchloride of iron. Disinfection was carried out all along. The next day the animal eat well, and the pain subsided by degrees. After four days the fever had all disappeared, and in thirteen days the ligature with the sloughing portion of the stump came out, leaving a small wound, which healed rapidly.—(*Giorn. della R. Soc. and Acad. Veter. Italiana*, Nov. 21, 1903.)

CYSTOPLEGIA AND CHRONIC ULCERATIVE CYSTITIS IN A HORSE [*Dr. C. Nencioni*].—The following is an extra from an observation of the author at the Veterinary Department of the University of Pisà: The subject had been brought to the clinic and condemned to be destroyed by an injection of strychnia on account of incurability. He was about twelve years old, and presented the following symptoms: While walking he had a constant dripping of urine, which became more abundant when trotting. Defecation was rather small. Rectal exploration revealed a marked distention of the bladder, which felt like an ellipsoid tumor, whose anterior *cul-de-sac* required the introduction of the whole arm to be felt. Pressure on the bladder through the wall of the rectum brought out a clear urine; when the pressure was made while a catheter was introduced, the urine became white, thick with deposits, but no ammoniacal odor. The rectum was full of fæces. No calculi nor tumor could be detected, and the diagnosis of paralysis of the walls of the bladder with that of the rectum was made. The animal was killed with strychnia, and the post-mortem made four hours afterwards. Near the entrance of the sheath on its inside there were urinary sedimentous deposits, some pressing on the urethra. Besides the lesions of the mode of death, which were found in various parts of the organism, most interesting ones were found in the urinary apparatus. The bladder was found full of urine, largely distended, and occupying a large portion of the abdominal cavity. The walls of the organ were hard and rather indurated; the external surface covered with villositities. The neck of the bladder was dilated, the muscle of Wilson atrophied.

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The urine contained in the bladder was cloudy and thick with sediment. The walls of the bladder were enormously thick and indurated. The mucous membrane was irregularly rough, yellowish gray, tubiscated with muco-purulent substance and covered with numerous ulcerations. Some had a necrotic aspect, with edges well marked, and an irregular *cul-de-sac*, gray in color; others had the appearance of confluent ulcerations. They were of various sizes, arranged irregularly on the mucous membrane, principally at the fundus. The ureters were dilated. In the kidneys the cortical portion was retracted, pale in color; the pelvis was dilated, with catarrhal lesions of the mucous membrane, and deposits of urinary salts.—(*Il Nuovo Ercolani*, Nov. 15-30, 1903.)

FILARIA LABIATO-PAPILLOSA IN THE SMALL INTESTINE OF A STEER [*Oreste Fantin*].—This parasite has often been observed in the abdominal cavity of cattle, without having given rise to any anatomo-pathologic lesions. Known under the various names of *F. terebra*, *F. labiato-papillosa*, etc., the author has seen them in sufficient quantity in the peritoneum to create nausea and diarrhœa. Lately in examining meat at the slaughter-house, he observed coming out of the small intestine of a steer a nematode, which when washed resembled the filaria he had found before only in the peritoneum. Dr. F. sent it to Prof. Stossich, who described it as a female worm of the *Filaria labiato-papillosa* species.—(*Clinica Veterinaria*, Dec. 5, 1903.)

MARE, MOTHER OF TWO MULE TWINS [*Dr. A. Minardi and D. C. Crocè*].—Of all our domestic animals the mare is the one which least frequently gives birth to more than one young. St. Cyr and Fleming have recorded few cases, and Rueff has said that one case of twins has been recorded out of 250 normal cases. In all, the young were either dead at birth or died shortly afterward. Most of the cases of double or triple gestation in mares have been attributed to two successive fecundations; the female being covered at more or less short intervals. The following case was witnessed by the authors: A mare, aged seven years, gave birth to two mule foals, one male and one female. Both were well built and well developed. The mother had been covered but once by a donkey. This is interesting for three points: (1) It is the first on record of a mare having twin mules at one delivery; (2) contrarily to most cases already observed, the two little fellows, now three months old, are in excellent condition; (3) this double gestation is the result of only one fecundation.—(*Clinica Veterinaria*, Dec. 5, 1903.)

ARMY VETERINARY DEPARTMENT.

A SUDDEN DISCHARGE OF AN ARMY VETERINARIAN WITHOUT TRIAL.

Army veterinarians were greatly mystified, noticing in the *Army and Navy Journal* the publication of an order which decreed the discharge of a veterinarian of Cavalry to take effect February 29, 1904. No cause nor explanation was given. Private inquiry elicited the information that the veterinarian in question, only recently appointed, had turned out to be a drunkard, that he had committed acts unbecoming an officer and a gentleman, and that the facts reported to the War Department brought forth his discharge by telegraph.

It is most unfortunate that such an incident should have occurred at the present time when our petition for granting us some modest recognition, that is so dear to all of us, is just passing through the hands of the War Department. It is deplorable that it could happen at all. We were in hopes that the strict entrance examination into the military service was a barrier to the creeping in of undesirable elements into the Army, and it was regarded as a distinct progress when some four years ago a confidential report stated that the officers constituting the examining board were instructed to make a careful inquiry into the moral and social fitness of the candidates for the Army Veterinary Service. There is no need of dwelling upon the importance of this phase of the examination for Army Veterinarians and it should not be relaxed.

There is much concernment about this case. Some think that it looks bad for the rest of us if one can be so removed from our midst without trial. So it does. But we may consider that the young veterinarian in question was, in a sense, still serving his probationary time, and that, from all accounts, the case of our fallen *confrere* was a hopeless one. By his quiet removal, unprecedented as it is—as far as we know—he and the rest of us were spared the greater humiliation of having the charges and specifications of a court-martial printed and distributed throughout the Army for the delectation of those who, from reason or no reason, are waiting for a chance to slur at our struggling profession in the Army. (O. S.)

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ANOTHER ARMY VETERINARIAN SEEKING RETIREMENT.

Dr. S. W. Service, 10th Cavalry, has a bill before Congress asking his retirement from the Army for long and faithful ser-

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vices rendered, for old age, partial loss of sight and hearing, and for rheumatism contracted in the service. Veterinarian Service is 69 years of age. He and Veterinarian Tempany, 9th Cavalry, who has had a bill for retirement in Congress for two consecutive sessions, feel most keenly the lack of a provision for retirement of army veterinarians, and no immediate relief is in sight for them as matters stand at present. (O. S.)

* * *

A REQUEST TO OUR COLLEAGUES IN CIVIL LIFE.

One letter received from a veterinary practitioner states that he has written to his Congressman and Senator regarding our petition to the War Department, and that they have promised him to do all they can for it. Other correspondents have asked what they can do to help the good cause along. It is certainly pleasing to know that our colleagues in civil life take such live interest in our future welfare in the Army, and their good intentions are greatly appreciated. But we wish to inform them that at the present writing it is not even known whether our petition has reached the War Department, and how it was received and endorsed. Thus any such well meaning action is premature, and we suggest that they spare their thunder until some more opportune time. (O. S.)

CANCER IN THE LOWER ANIMALS.—Cadiot, at a recent meeting of the Académie de médecine, as reported in *Bulletin médical* for February 3d, gave his personal experience with cancer in animals, which has extended over many years. He has found epithelioma to be the commonest form, followed by melanosis and sarcoma; there are 40 epitheliomata to 7 sarcomata. Animals seem to be liable in the following order: dogs, cats, horses, cattle. In 2220 dogs Cadiot found 954 cases of cancer, but only 208 cases in 18,100 horses. The site of the lesion varies with the species. In the horse, the jaw is most frequently attacked, then the sinus, the testicle, and the penis; in cattle, the liver, the kidneys, the bladder; in the dog, the skin, the teat; in the cat, the teat, the skin. In both dog and cat epithelioma of the lips or tongue is rare. Cadiot favors the ætiological theory of aberrant cells rather than that of a microbial origin. For periods of seven years Cadiot has forced old and feeble dogs to come in constant contact with cancerous dogs, yet he has never seen a single case of contagion. Repeated inoculation has never produced a malignant growth; there have occurred nodules which, however, were apparently defensive in their nature.

BIBLIOGRAPHY.

SURGERY OF THE FOOT OF DOMESTIC ANIMALS. (Chirurgie du Pied des Animaux Domestiques.) By J. Bournay and T. Sendrail, Professors of the Veterinary School of Toulouse. 1 vol. in 16, of 492 pages, with 135 illustrations. [Cadéac Veterinary Encyclopædia.] J. B. Baillière et Fils, Rue Hautefeuille, Paris.

Diseases of the foot in domestic animals, and especially in horses, are commonly observed and ordinarily serious. Their study offers a peculiar interest to veterinarians.

The importance of the subject is due to the great functional part of the foot, which keeps under its influence the entire locomotory mechanism, and consequently the principal economical function of the horse, which is almost exclusively used as a motor agent.

The foot carries the weight of the body, through it the animal takes contact with the ground; it is the supporting point of all locomotory levers; it participates in the diminution of locomotive pressure and reaction; and finally, it is an organ of feeling sufficiently sensitive to allow the animal to move in darkness with a certain amount of assurance.

The functional overwork on a ground artificially hardened, and the necessity of the use of supplementary protective apparatus, the shoe, are sufficient to explain the frequency of the alterations of the foot. The anatomical complexity of the region, the number of its organs, and the variability of the tissues of which it is made, suggest the diversity of these alterations. In relation to their severity, it is naturally due to the delicacy of the organs affected, which are concealed and less accessible because of their horny cover.

The great importance of the diseases of the foot justifies the presence of this volume among those which form the Encyclopædia of Cadéac.

Its numerous chapters cover the following subjects: *Solipeds*—General pathology of the foot; atrophy; defectuosities in size, form, standing, thickness, or quality of the hoof; traumatic affections of the foot, coronary and plantar regions; inflammatory affections; tumors. *Cattle*—Traumatic affections; laminitis; dermatitis; grease, canker, etc. *Sheep, Goats and Swine*.

PROCEEDINGS AMERICAN VETERINARY MEDICAL ASSOCIATION, SESSION 1903. M. H. REYNOLDS, Chairman Publication Committee, St. Anthony Park, Minn.

We have received a copy of the bound proceedings of the

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Ottawa meeting of the A. V. M. A. from Chairman Reynolds, and, though it is sent out a little later than for several years past, it is by far the best of any that have preceded it, many of the papers being splendidly illustrated, while the paper and typographical excellence of the work are in keeping with the great care and taste which the Chairman has given to its editing. Irrelevant matter has been rigidly expunged, verboseness eliminated, and a direct method of stating facts employed which does not admit of two meanings. The book in its present form is in every way worthy of the dignity of the great event which it so faithfully portrays. It constitutes one of the best library volumes which a modern veterinarian can place upon his shelves.

SYNOPSIS OF VETERINARY MATERIA MEDICA, THERAPEUTICS AND TOXICOLOGY. By Edwin L. Quitman, M. D. C., Professor of Materia Medica, Therapeutics and Toxicology in the Chicago Veterinary College. Second edition. Revised and enlarged. Chicago: Alexander Eger, Publisher, 1904.

As indicated by the title, the volume which Mr. Eger has placed before the veterinary profession in an enlarged and much improved form, does not essay to be a full text-book upon the complex subject synopsized, but "it has been the aim of the author to make this work serviceable to both the student and the practitioner of veterinary medicine by omitting all unnecessary embellishments or padding, that the reader may quickly glean the essence of the knowledge of the subject or drug for which he may be seeking." It is, then, more of an elaboration of the notes used by Prof. Quitman in his lectures at the Chicago Veterinary College, and, as is the case with most all such productions, is apt to reflect the individual opinion of the lecturer more than the consensus of general professional judgment. It could not be otherwise, for a class of students look to their teacher for guidance in their estimate of drugs, and he fulfils their wants by making deductions from his special opportunities through reading and experience, and thus his subject is treated of more from the individual standpoint than is the case with more pretentious text-books upon materia medica. No fault is found with Prof. Quitman's conclusions; most of them are in conformity with our own. Our only object is to be a faithful reviewer. He has certainly brought into compact form a great amount of information upon the subject, and it is right up to the hour, for we observe the description of new drugs just placed before the profession. Mr. Eger does better with each new work. The present one is splendidly printed and bound in half leather, and sells for \$3.

CORRESPONDENCE.

PARTURITION IN THE SOW—REPLY TO DR. MAXWELL— TROUBLESOME SCRATCHES.

STROH, IND., March 14, 1904.

Editors American Veterinary Review :

DEAR SIRs:—In reply to H. S. Maxwell's inquiry for pointer on sow parturition, I offer the following :

Case I.—Farmer came to my place early one morning and asked me to deliver a sow. On arriving at his place found a large sow, very fat. Owner said she had been in labor about 24 hours. After due preparation for self and sow, I proceeded. She was just large enough so I could get my arm in, and at arm's length (I mean this) I reached a pig. There seemed to be no action of the uterus, as the pigs moved only as I moved them. Well, I left at noon, and had the satisfaction of a pleased farmer, a good fee, and eleven living pigs fighting for dinner at the sow. Before leaving I, however, flushed the uterus with permanganate of potassium solution, left a laxative for the sow, and informed the farmer of the complications liable to arise.

She made a good recovery and raised all her pigs with a little aid the first few days.

Case II.—Was 'phone message. Operator had used pig forceps, but got "stuck," as he said, after pulling off the head by aid of small cord. I got this dead one, and after it two live ones, then the last about half, where it stopped for some reason, and, lo, my pig's life was squeezed out in this shape. (I saw a calf die in this position while a student.) This was a young sow, and came near dying, but recovered.

In conclusion, my experience, though limited, gives me more confidence in a good strong, pliable cord and a small, careful hand, with a cool head, than in any pig forceps I ever saw used. If I use my hand I can tell when I am pulling on the pig, and with the forceps I think may rupture many a sow; but you say what if you cannot get in? Well, another case comes to mind: 'Phone call, 8 P. M.; understood sick horse; drove eight miles; on arriving man said "hog," not "horse." On inspection found sow, about ten months old, walking about the pen; pig's head protruding; caught sow; farmer held her, squealing, and I got pig in pieces. This was No. 1, and judging there were more, I tried to enter; two fingers and a thumb was the room. I then gave her a hog-dose of fl. ext. ergot and cotton root bark, with a dose of quinine sulph. together; no ef-

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I have never seen a case where I thought the "abdominal operation" was advisable, for I was called when the case had gone too long. Hope this will be some aid to friend Maxwell.

Now, what shall I do to remove the swelling in the leg in a case of neglected scratches? I can heal the cracks, but the swelling goes down on exercise, to appear again. This case has been under treatment by a quack for four months; then a graduate took it and treated it two months. He then brought the horse to me, swollen from foot to thigh, hot and very tender, sore below fetlock to half way to hock. I used epicarin, arsenious acid and nitrate of potassium treatment; it helped awhile, then no change; then used Goulard's extract and oil externally; gave ball of aloes and heart stimulants. This seemed just the thing, only to fail to *cure*; then used dressing of vaseline, lead oxide, and iodized phenol, with the same result, and now I have him all healed, but his leg is swollen some; worse some days than others; and I know he's not cured. He is a four-year-old, and has been treated now all in all nearly nine months, and I am not satisfied, though the owner says "he's lots better." What shall I do?

J. B. YOUNG, D. V. S.

P. S.—I have had many cases of scratches, and in every instance the right hind leg is the one affected. Is it because of weaker circulation on this side?—J. B. Y.

AS TO OXYGEN INJECTIONS IN PARTURIENT APOPLEXY.

KEWANEE, ILLINOIS, March 15, 1904.

Editors American Veterinary Review:

DEAR SIRs:—Since my article appeared in the March number I have received 25 letters, asking where the oxygen tank can be bought. I think any instrument firm can supply it. The size I use holds 100 gallons of oxygen, rubber tubing about 10 feet, with common milking tubes. They most all wanted to know how much oxygen to use. I will say, inflate the udder until tense with the gas.

Truly yours,

FREDERICK R. WHIPPLE.

CORRESPONDENCE.

PARTURITION IN THE SOW—REPLY TO DR. MAXWELL— TROUBLESOME SCRATCHES.

STROH, IND., March 14, 1904.

Editors American Veterinary Review:

DEAR SIRS:—In reply to H. S. Maxwell's inquiry for pointer on sow parturition, I offer the following:

Case I.—Farmer came to my place early one morning and asked me to deliver a sow. On arriving at his place found a large sow, very fat. Owner said she had been in labor about 24 hours. After due preparation for self and sow, I proceeded. She was just large enough so I could get my arm in, and at arm's length (I mean this) I reached a pig. There seemed to be no action of the uterus, as the pigs moved only as I moved them. Well, I left at noon, and had the satisfaction of a pleased farmer, a good fee, and eleven living pigs fighting for dinner at the sow. Before leaving I, however, flushed the uterus with permanganate of potassium solution, left a laxative for the sow, and informed the farmer of the complications liable to arise.

She made a good recovery and raised all her pigs with a little aid the first few days.

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SOCIETY MEETINGS.

OHIO STATE VETERINARY MEDICAL ASSOCIATION.

This Association convened for its twenty-first annual session in the new laboratory building, Veterinary Department, Ohio State University, Columbus, Ohio, January 12. The meeting place is practically an ideal one, as all seats are raised, enabling every one to plainly view the speaker.

Session was called to order by President J. H. Blattenburg, at 2.30 P. M. Prof. Thompson, who was to have delivered the address of welcome being unavoidably detained, Dr. S Sisson performed that duty with a short and pleasing *ex tempore* address, which was responded to by Dr. Blattenburg as follows:

"In response to the eloquent address of welcome to this Association by Prof. Sisson, I feel inadequate with speech or language to reply to such hearty words of greeting.

"This should be a day of thanksgiving for the privilege of this Association and the kind invitation of Dr. White to assemble in this new and most complete Veterinary Department of this grand institution of this great State of ours. Compare but a few years past when this Association would meet downtown in some alcove, or unsuitable room in an office building, or an out-of-the-way corner in one of the hotels, with that of the present place of meeting, which has been our privilege and pleasure for the last few years. And long may it continue!

"Few other State veterinary associations have the opportunities of assembling equal to those of the Ohio Veterinary Medical Association. Note the splendid equipment of this institution—the excellent corps of instructors composing its faculty, ever willing and ready to aid this Association, clinical benefits, and the many advantages of making these meetings most pleasing and profitable. These are opportunities scarcely ever afforded the American Veterinary Medical Association, and advantages of which more veterinarians throughout the State of Ohio could and should avail themselves.

"You in charge of this branch of education of the Ohio State University are to be congratulated upon your diligent and untiring efforts in maintaining and continually building up one of the best and most thorough institutions of veterinary science.

"Success is not always proven by numbers, but how well done; as Emerson says: 'The true test of civilization is not in

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"Again in behalf of this Association I wish to thank those in authority for the courtesies extended us as an organization."

The minutes of the last session were read and approved, after which roll-call showed the following veterinarians present: F. E. Anderson, Findley; W. A. Axby, Harrison; J. L. Axby, Harrison; E. R. Barnett, Akron; O. V. Brunley, Columbus; H. W. Brown, Columbus; J. H. Blattenburg, Lima; S. E. Bretz, Nevada; J. W. Choates, Columbus; G. W. Cliffe, Upper Sandusky; Louis P. Cook, Cincinnati; W. R. Clark, Wauseon; H. S. Cooley, Cleveland; L. W. Carl, Columbus; A. H. Collins, New London; E. H. Callender, Zanesville; W. E. Clemons, Granville; J. B. Caughey, Columbiana; P. A. Dillahunt, Springfield; Geo. Freese, Freeport; J. D. Fair, Berlin; C. B. Frederick, Canton; J. L. Faragher, Lorain; H. A. Forrester, Columbus; Wm. H. Gribble, Washington C. H.; Frank Griffin, Columbus; A. D. Gemmill, Celina; R. C. Hill, West Alexandria; E. R. Hinkley, Sandusky; Wm. R. Howe, Dayton; T. B. Hillock, Columbus; E. O. Hess, Elyria; N. W. Hillock, Columbus; T. E. Jones, Newark; W. A. Labron, Xenia; Constant Lake, Portsmouth; J. S. Lake, Bellefontaine; C. E. Leist, Columbus; J. A. Meagher, Glendale; S. D. Myers, Wilmington; R. J. Michener, Lebanon; H. M. Manley, Dayton; Frederick Miller, Fort Recovery; J. V. Newton, Toledo; H. W. McMillen, Miamisburg; E. L. Price, Circleville; I. A. Ruby, Plymouth; C. H. Sater, Hamilton; S. S. Snyder, Springfield; L. A. Severcool, Elyria; F. F. Sheets, Van Wert; Walter Shaw, Dayton; E. H. Shepard, Cleveland; S. Sisson, Columbus; D. H. Udall, Columbus; D. S. White, Columbus; Geo. C. Webb, Tallmadge; W. E. A. Wyman, Prospect; Jos. Wingerter, Akron; and others whose names we failed to obtain. The senior students of the Veterinary Department of the University were also present, making in all a goodly sized number.

President Blattenburg delivered his annual address, as follows:

PRESIDENT'S ADDRESS.

"Having been chosen to act as your presiding officer, I wish you to understand that the compliment and honor you have conferred upon me is felt with a very keen sense of appreciation.

"Through our chosen vocation we meet the wants of an existence. Not always satisfied with that alone, we seek more than a mere livelihood, making efforts to multiply our earnings

by increased energy; but to me the satisfaction of having acquired coveted worldly possessions could never equal the honor craved, which has been extended me by those in the same field of labor.

"We meet from year to year, not that we may receive remuneration with a price for our time spent and efforts put forth, but that we may show that we are progressive and intend to advance. Even if you remain in your seat and raise no voice in the discussions of the various subjects presented, yet you show by your very presence your interest in the welfare of the Association. Were you not interested, you would not be here at the expense of time and transportation. Should you expect more than is being brought out in the discussion following the reading of a paper, a question relating to the point you are most interested in, put to the author, might be the very key to an interchange of opinions most interesting and beneficial to all assembled.

"The present and future success of this Association depends entirely upon our individual efforts. We do not expect to deteriorate; we do not wish to remain at a mere standstill; we hope and expect ever to continue to progress. But yet it is very easy to assume either of the two former conditions—that of retrogression or of non-progression. 'But industry need not wish.' By our willingness to respond to any duty assigned us, such as spending some time in preparing ourselves upon a given subject, we may aid in presenting such interesting programmes from time to time that not one member of this Association will willingly remain away from these meetings. By our own zealously in the work of this Association, we stimulate a desire in those eligible to membership in this organization to unite themselves with us.

"At these meetings there is one thing of no little importance continually confronting us as an association—that of veterinary legislation, which as a barrier can be overcome by our individual efforts, providing each and every member of this Association place himself in touch with his representatives and senator of his senatorial district; or by the aid of competent counsel or a lobbyist, or possibly some of you may be able to do a little 'wire-pulling' at the coming session of the legislature, which convenes this month.

"We, having qualified ourselves for our profession through severe duty and hard study, at institutions chartered by various States and countries and recognized by this State, are deserving

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more protection than this State affords us as citizens. And it is an individual duty we owe ourselves and our profession, through which we gain our livelihood, to do all in our power, by influence, time, or an honest expenditure of money, that will give us such legislation as will protect us against empiricism.

"I have had prepared by able legal talent a bill under the head of 'An Act to Amend and Supplement the Revised Statutes of Ohio as passed May 21st, 1894,' which I shall submit to you later for your consideration."

Motion was made, that as the Committee on Constitution and By-Laws were ready to report, that we go into executive session to consider the same. The motion prevailed, and all but members left the room. The changes proposed were really so many as to affect almost every article and section of the present laws. They were first read by section and amended, if necessary, and then read and adopted as a whole. We have not space to give all these changes, but the most important are: To have but one Vice-President instead of three; to pay the Secretary a salary of \$50.00 per year; that all applicants must be graduates of colleges giving a three-year course of not less than six months each year, and with not less than four reputable qualified veterinarians on the teaching staff; and also applicants must be legal practitioners of Ohio; to elect three censors, whose terms of office shall be three years, one to be elected each year, and these three censors, together with the President and Secretary, shall constitute a Board of Censors, whose duties are responsible and varied, but an appeal from their decision can be taken to the Association.

Next followed the nomination and election of officers; and after this the Secretary will be well provided with ballot paper, as it was surely necessary this time, especially in the selection of censors. The result was declared by the Chair to be as follows:

President—David S. White, Columbus.

Vice-President—W. E. Clemons, Granville.

Secretary—Wm. H. Gribble, Washington C. H.

Treasurer—T. B. Hillock, Columbus.

Censors—Three years, E. H. Shepard, Cleveland; two years, J. D. Fair, Berlin; one year, O. V. Brumley, Columbus.

While it was probably not thought of in their selection, still it is a fact that the three Censors are from three different colleges, Ontario, American and Ohio State University.

L. A. Severcool, of Elyria, and T. E. Jones, of Newark, presented through the Secretary their applications for reinstatement.

ment. The requisite fees having been paid and there being no objections, their petitions were granted.

It being 6 P. M. we now adjourned for supper.

Reconvened at 8 P. M., President Blattenburg in the chair. A large mass of correspondence was on hand, mostly of not much interest. A letter from W. McFadden, Cadiz, Ohio, asked if a graduate of a certain Kansas City college was eligible to membership in this Association. On motion, this was referred to the Board of Censors to answer. A communication from Dr. J. R. Mohler was read asking contributions to the Nocard Memorial Fund. A resolution was adopted instructing the Secretary to forward \$15 as the Association's donation. Dr. Geo. Butler, connected with the B. A. I., and now a resident of Eau Claire, wrote, requesting to withdraw from the Association. His request was granted, and then the doctor, who has been a member since 1884, and a worker, was unanimously elected an honorary member, such honorary membership to cease if he again becomes a resident practitioner of Ohio. Dr. E. H. Callender gave a report of a case of tetanus. Early in the winter dozens of newspapers published a sensational article, describing the remarkable *cure* of a case of tetanus (in a horse) at Zanesville, Ohio. Dr. Callender, who lives in that city, was appealed to by the Secretary to obtain all the facts in connection with the case and report the same at this meeting of the Association. Dr. Callender's report is as follows:

"Some time during November, we had considerable excitement in this city over a case of tetanus treated by my neighbor veterinary surgeon. In some manner this case got into the papers and was heralded the length and breadth of the country as being *cured* by the hypodermic injection of prussic acid. The trouble was that the initial description of the case was written too soon, but, nevertheless, it was reported in papers from New York to at least Chicago and St. Louis as *cured* and hundreds of comments written upon it. Dr. Gribble has asked me for information, so I will tell you all I know of the case. I did not see the case until after the second dose of prussic acid had been given, but the attending veterinarian gave me the following history of the case: He said he was called in to see the patient on a Tuesday, and had given four tubes of tetanus antitoxin each morning and evening on Tuesday, Wednesday and Thursday, making twenty-four tubes in all in the three days. On Friday morning he thought the horse ought to be destroyed, and so informed the owner as the animal had gotten worse very

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rapidly and was in apparent great agony. The owner said 'destroy him'; and to do this the attending veterinary surgeon first injected into the trachea one drachm of C. P. prussic acid, and, excepting for a few gasps, the horse showed no sign of its effects, let alone dying. Then one and one-half drachms of same was injected into the jugular vein, and still the horse did not die; he got quieter, his muscles relaxed to some extent and he took some nourishment. This is when I saw the horse; he was not very excitable; was trying to get some blades of hay in his mouth and could open and shut his teeth about three-quarters of an inch. He got worse again next morning, and I do not know whether more prussic acid was given or not, but the animal died Sunday. Nothing in the case shows any remarkable discovery, as stated in the papers; and as for the cure, it was decided as a fact one day too soon."

Considerable discussion followed (tetanus can always bring that) on the disease itself, its prevention, its great mortality, the failure of antitoxin after the disease has advanced sufficiently to be recognized, as well as the doubt of C. P. prussic acid having been used in this particular case. In fact, is it possible to obtain *chemically pure* prussic acid outside of a laboratory? That usually sold is only a 2 per cent. solution.

Dr. W. Shaw exhibited the testicle of an elephant, which some years ago he had assisted in removing. He told the reasons why the animal was castrated, described the difficulty and labor of the operation, the especial instruments manufactured for the purpose and especially the great care in arranging an apparatus for confining the great brute.

Dr. Shaw also read a short paper on "Forage Poisoning Affecting the Larynx," being the report of some cases seen by him in consultation with Dr. Pollock.

FORAGE POISONING IN WHICH THE LARYNX WAS AFFECTED.

By WALTER SHAW, Dayton, Ohio.

"On Feb. 23, 1902, I was called by Dr. Pollock, Miamisburg, O., in consultation concerning some horses and mules in Franklin, O. On Feb. 18, the owner noticed that the animals breathed with a loud and unnatural sound when he led them to and from the watering place. He summoned Dr. Pollock, who found, on examination, five horses affected. When inactive, their pulse, respiration and temperature were normal; they were anæmic and emaciated, hair harsh and standing, digestion impaired and disordered. In slow action these horses would roar; when trotting they would fall prostrate, and in a few cases blood

would issue from their distended nostrils. After a few moments of inaction these organs would again perform their functions normally. The doctor administered a laxative, an alterative and nux vomica, if my memory serves me correctly. On the day I was summoned three had already died and six new cases were discovered. In the evening, when Dr. Pollock and I reached the place, we found that twenty horses and ten mules were afflicted to a greater or less extent. These animals had been at work on the electric road along the canal prior to their confinement for winter. They were fed and sheltered in a squalid building, which had been erected and used for an ice house on the bank of the canal. Foul and nauseating odors emanated from these quarters; the building had no protecting floor and the manure had been allowed to accumulate to a thickness of 18 or more inches. Along the west, north and east sides of the building, horses and mules were tied. On the outside of the western wall, manure had been heaped to a height of six feet. The south side of this building was filled with corn-fodder, which had been sown and cut green and hauled in when it was wet. Consequently, it fermented and partially moulded; the ears could easily be crushed in the hand. The stock had been fed on this unwholesome material for a period of a month or six weeks. There was a noticeable absence of all sanitary conditions and the provender unfit for any animal. We examined the horses affected and found the symptoms as aforementioned. We unfastened one horse and turned him in a circle three times, at which time he roared and became so enervated that he gave signs of falling; but in the short time of fifteen minutes he regained his strength and commenced to eat again. The sanitary condition of the water which they drank was vouched for. We directed that the animals be stationed in another building and the food changed to the best quality of hay, oats and bran. The animals were not moved, however, but the building was thoroughly cleansed, ventilated, and wholesome food provided. To each horse and mule a pint of linseed oil was at once administered. Nux vomica, fl. ex. 3i, three times a day; hyposulphite soda, 3iv, at night and morning. At noon nitrate of potas., 3ij, carbolic acid, 3i. This was continued for several days.

"After this treatment was commenced, three or four horses died, but no deaths occurred among the mules and no new cases of roaring developed among the horses. I believe that this disease was caused by vegetable or forage poisoning, and by the

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inhalation of noxious odors. I am not prepared to state why the larynx was affected. By an injection of belladonna into the larynx, the intensity of the symptoms was reduced, and the animal could trot with little evidence of distress. It is possible that a greater number of those horses would have roared if they had been compelled to exert themselves to greater efforts."

These interesting cases were well discussed, almost every member having had somewhat identical cases, the *why* being hard to get at.

Dr. F. F. Sheets read an interesting original paper entitled "Inflammation: A Treatment." This paper dealt especially with the materials, manufacture and uses of that class of remedies on the market as antiphlogistine, anticalorine, antithermoline, anti-itis and anti everything else. There is no doubt but this method of treating certain inflammations is excellent, but their indiscriminate use as used by some is rather laughable.

INFLAMMATION—A TREATMENT.

By F. F. SHEETS, V. S., Van Wert, Ohio.

"For external application, recommended for cases of an acute inflammatory character, there are upon the market numerous silica preparations, named according to the fancy of the firm introducing them. In appearance these preparations most nearly resemble light colored builder's putty; both in consistency and color. While they remind one as being ointments, still they are not such.

"Regarding convenience of use in this form, it bears that relation to the stable bucket filled with clay which the alkalioid does to the raw drug.

"I find opinion differs widely as to the merits of this preparation, however; most physicians in my locality are using some form of it. As yet, for the more extensive use of the veterinarian it has perhaps not been generally tried, since the price is such that to use it in such quantities as are necessary for results makes the cost mount beyond the practical figure, at least it is so with us, who are rural practitioners.

"Advocates of this form of treatment recommend it especially for application in pneumonia and pleurisy, also in glandular inflammations, sprains, bruises, boils, bronchitis, periostitis, synovitis; in fact, inflammatory and ulcerative conditions of all kinds.

"So we find that, but for colic, it will scarcely be necessary for us to longer be bothered with the medicine case; just a can

of this silica preparation and we are ready to do battle with equine ills.

"As to its therapeutic action, we are told that first of all it is antiseptic; that it has the power of a hygroscopic in the removal of fluids from the tissues by a vague process of endosmosis; that the effects of bleeding can be obtained through this stimulation of superficial capillary action.

"The action suggesting itself to my mind is rather that of perfect mechanical retention of body heat and consequent circulatory response. It is well to have any application antiseptic, though I am inclined to believe the menthol, thimol and kindred antiseptics, said to be employed, act in a passive, rather than in an active way. The only medicinal action which can be ascribed to clay is that of absorption. I find a single author who says clay has some affinity for ammonia and organic matter. The form of silica used in these preparations as they are placed before the profession is china clay or kaolin. Pipe clay may be substituted, with a darker mixture resulting, but possessing, no doubt, all the essential qualities of the kaolin. I have been putting together for use in my own practice a mixture which appears identical in all properties with those I have used under proprietary names. According to the consistency desired, we use kaolin, five parts; glycerine, from two to four parts, together with the desired quantities of any suitable antiseptics, either liquid or powdered. A representative formula would be:

"R Kaolin, No. v.

"Glycerine, No. iii.

"Creolin, § iv.

"Glycerine is said to be somewhat antiseptic, and as for additional ones, in our ability to choose according to the required use and individuality of the case, lies the advantage over dictated preparations; for, as far as I can see, almost any desired action of soothing external application may be devised. Dilute glycerine may be employed, and, no doubt, we have used such products. However, to be prepared consistently with the original idea of absorption, the glycerine should have every possible particle of water driven from it and heat employed in mixing the constituents.

"And, now, as to the wonderful results possible: A physician in an adjoining county to my own tells me that he '*killed and removed*' a spavin by repeated applications of the product of the original promoters, and no doubt one would gain almost as favorable impression by relying on some of the proprietary liter-

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ature which falls into our hands. However, do not blame me for the absence of the spirit of professional progress if I see some limitations to the '*drawing power*' of these silica preparations. I believe if we care to use such an agent in our work at all, it should be prepared under our own direction, since the cost is reduced, approximately, eighty per cent., since we can administer according to the special requirements of the case in hand, and no veterinarian should use any preparation the components of which are unfamiliar to him. An additional advantage lies in the peculiar consistency of the mixture, which makes it suitable for use where other forms of medication are often somewhat impracticable. For, however much solidification may occur in the application, we may be assured the tissues will not be thus affected, and yet our agent, however crust-like it may have become, will almost dissolve as you wash the part preparatory for renewed application."

After a short debate, as it was getting late, we adjourned to meet to-morrow at 9 A. M.

WEDNESDAY, JAN. 13.

Morning session convened at 9 A. M., Dr. J. H. Blattenburg in the chair. Dr. Howe stated that it had been forgotten yesterday to arrange for the printing and distribution of the new By-Laws. A resolution was duly adopted, instructing the Secretary to classify and arrange the Constitution and By-Laws as adopted; to have 500 copies of the same printed, and one copy to be mailed to each member as soon as possible; after which the Committee on By-Laws were given a vote of thanks and relieved from further duty.

The Secretary reported that since our last session we had lost by death one of our members—Dr. D. B. Cliffe, of Marion, Ohio. The Chair appointed a committee to draft suitable resolutions, which reported as follows:

"WHEREAS, It has pleased Almighty God in His infinite wisdom to remove from our midst Dr. D. B. Cliffe, of Marion, Ohio, member of this Association, and our esteemed friend and brother; Therefore be it

"Resolved, That we, the members of the Ohio State Veterinary Medical Association, express our sympathy for the family of the deceased brother by recording these resolutions in the minutes of the meeting and publishing them in the veterinary journals; and be it further

"Resolved, That the Secretary be instructed to send a copy

of these resolutions to the family of the deceased member.

"WALTER SHAW,
"W. R. HOWE,
"J. V. NEWTON, } Committee."

Reports of cases were presented by Dr. Rowe, but he being absent, the same was read by the Secretary. Quite a discussion took place over Case II. as to what it was.

DR. ROWE'S CASE REPORTS.

"IRREGULAR STRANGLES.—*Case I.*—A couple of years ago, I was called to a four-year-old gelding. I found a small abscess in the submaxillary space. I opened it and a small amount of pus came from it. Gave usual treatment, and horse did well, until one week afterward, when the owner informed me that there was a swelling on the inside of the thigh. Again opening this abscess and leaving medicine, I informed the owner that I thought all would be well now. About two weeks afterward I was surprised to find another abscess in the submaxillary space. After attending to him this time, he did well ever since.

"*Case II.*—A four-year-old mare, having worked steadily, was brought in on Friday evening and given hay. In a short time she was to be watered, but could not use hind quarters. Gave her water in bucket, drank freely, ate grain and hay. Gave soda hyposulph. and nuxes vom. Sunday she appeared well and feeling good, but on Monday morning there was a swelling on each shoulder. Opened them on Tuesday, continuing nux and hyposulph. for several days, brought her out all right. I cannot understand the partial paralysis.

"VOMITION IN A MARE.—*Case III.*—I was called to the barns of the Cleveland-Sandusky Brewing Co., on a Sunday morning during April, 1903. I inquired as to the actions of the horse and was told that she acted colicky. I hurried to the barns, but found the mare in the yard, with head drooped and seemed to gag. Soon she had a copious vomition and seemed to be relieved greatly. She had no more vomitions after that and did well. I was told she had vomited four times previous to my arrival and was witnessed by at least eight people and I was convinced by seeing four other spots in the yard where she had vomited. She threw out about one-half gallon at a time, coming from nose and mouth at the same time. The trouble was due to her drinking enormous quantities of water, being untied and left to drink at liberty. She had been having colic nearly every morning for some time, but a little walk brought her all right.

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Probably these cases are old to some of you, yet they were interesting to me."

"Herbic Treatment," * was the title of an essay read by Dr. I. A. Ruby. This paper showed that the writer had that peculiar talent of making an essay on a dry subject amusing, as well as instructive and entertaining. The doctor was personally complimented, his paper well debated and ably defended; even those who oppose large doses admiring a man who practiced, in the face of adverse criticism, what he honestly believed best for his patient and client.

In some way the debate on this paper ran into a discussion on the general use of the catheter, the majority condemning it as useless, dangerous and unnecessary, so many present preferring digital pressure, and always practiced it. One thought a catheter could be made aseptic; another said it *could* be, but from his experience with fellow-practitioners, he had failed to meet many who were very aseptic themselves.

The next paper read was "Quittor and Its Treatment," * by Dr. N. Wells Hillock.

This paper showed that its writer was well acquainted with his subject, and all were sorry that we did not have the real subject for the Doctor to have demonstrated on. While it is true the paper was not debated upon very much, this might have been because so few of us had had sufficient experience with the surgical technique to debate it intelligently; nevertheless, the writer was taken to be an intelligence bureau on the subject, and innumerable questions were asked, which he cheerfully answered.

The Chair called for the report of the Committee on Contagious Diseases. The chairman of this committee (Dr. Fischer) being unavoidably absent, his report was read by the Secretary. The shortness of this report is explained by the fact that the committee forgot their appointment or failed to read March, 1903, AMERICAN VETERINARY REVIEW.

REPORT OF THE COMMITTEE ON CONTAGIOUS DISEASES.

"Mr. President, and Gentlemen:—

"As chairman of the committee appointed for reporting on the prevalence of contagious diseases in Ohio, I respectfully submit the following report.

"The diseases that have appeared in Ohio during the past

* Will be published in an early number of the REVIEW.

year and which have come under our observation, might be classified as follows :

"Among horses : Glanders and coital exanthema, influenza, and reports of contagious pleuro-pneumonia by a few veterinarians. Among cattle : Tuberculosis, actinomycosis, infectious diarrhoea, infectious keratitis, rabies, anthrax. Among sheep : Scabies, nodular disease (so-called), and lung worms. Among swine : Hog cholera and swine plague. Notwithstanding newspaper and other reports of outbreaks of foot-and-mouth disease, and even contagious pleuro-pneumonia among cattle, no dangerous exotic diseases have occurred in this State during the past year. The appearance of anthrax in a small herd of cattle in Summit County, and the discovery of coital exanthema among a number of stallions and breeding mares, in Defiance and Paulding Counties, is of especial interest. The fact that Texas or Southern cattle fever did not make its appearance during the past year should also be noted. Rabies in dogs, it seems, has been more common than usual. The same may be stated in regard to the appearance of the disease among cattle and swine. During the spring months, influenza was quite prevalent among horses of the State. The State Board of Live Stock Commissioners, during the year just passed, ordered the destruction of thirty-eight horses affected with glanders, and of thirty-three hogs that were exposed to infection by rabies.

"PAUL FISCHER, *Chairman.*"

Some little arguments were indulged in, in reference to swine diseases and rabies, but antipodes will never meet ; independent investigators will settle the matter some day.

Next came the report of the Committee on Veterinary Progress. This was read by its chairman, Prof. D. S. White, and from the paucity of our usual committee reports, one may be pardoned for calling especial attention to this one, as one showing care, study, and a desire to do the allotted subject justice, and it is hoped that future committees will "go thou and do likewise." The report speaks for itself.

REPORT OF THE COMMITTEE ON VETERINARY PROGRESS.

"*Colleges.*—Strictly speaking, there are three kinds of veterinary schools in the United States. First, those which are wholly proprietary, self-sustaining institutions, dependent upon student fees for their maintenance ; second, those which are integral parts of either a State university or an endowed university ; third, schools which are specifically provided for by direct State legislative appropriations. Of this latter class, but one

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representative exists in this country. The schools which were simply affiliated with universities have passed away. Practically speaking, and from the standpoint of organization and support, but two kinds of schools are extant, viz.: those supported by taxing the people, directly or indirectly, and those which support themselves. As to the future of each of these two sorts of institutions, the history of the medical profession in this country furnishes some helpful data in a prognostic way. The American Association of Medical Schools has assumed control of the standards of entrance requirements and the curricula of the medical schools belonging to the Association, has caused these entrance requirements to be raised, graded the courses and lengthened the time of study to four years. This has seriously, from a commercial standpoint, handicapped the proprietary medical school, especially the inadequately equipped institution, by reducing its student body—in some cases 75 per cent., and increasing its expenses. The introduction of the practical laboratory method of instruction, furthermore, has called for costly apparatus and instructors who are specialists, greatly reducing the net income. For the medical profession this has been a good thing; for the proprietary medical school a catastrophe. To save themselves, in some cases, these schools have been forced to appeal to be taken in by a university having no medical department. If the university were happily located and happened to have a surplus which could be used to strengthen its acquisition by employing better teachers, apparatus and facilities, it was a good thing for both the profession and the school.

"Within the next decade the old style medical schools will have disappeared as such and from out their ruins will arise the medical school of the future—an institution built upon a broader basis and dependent for its maintenance upon the State or private endowment. Medicine in the United States will then be elevated from a mere trade to a real profession. As to the future of our veterinary schools, one may draw his own conclusions. History repeats itself. There are about eleven veterinary schools in the United States. Of these eight are proprietary and three State schools. In the eight proprietary institutions are now enrolled 600 students (estimated); in the three State schools 245 students. There averages about 75 students to each proprietary school, and $83\frac{1}{2}$ students to each State school. The requirements for admission to the proprietary schools are not accurately determinable, the minimum requirement being often

a vague and elastic statement to the effect that the applicant for matriculation 'must possess sufficient English education to understand instruction given.' Of the three State schools, two require high school training for the doctorate degree, and the third proficiency in the common branches as determined by examination. In the eight proprietary schools the length of course averages about eighteen months; in the State schools two average twenty-seven months and the third offers a thirty-six months' course. Lack of space forbids a detailed comparison of the course given in these schools, but from a study of the announcements, generally speaking, the quantity and quality of the instruction is greater and better than formerly in *all* the schools. Unfortunately, however, the statements in the catalogue and the facts in the case do not always harmonize. In all of the schools but two, the courses are graded ones. Taken as a whole, it may be stated that while the conditions in regard to our schools are far from ideal and need much in the way of supervision, the opportunity for a student to obtain an education in veterinary medicine is far better to-day than it was even five years ago. What veterinary schools need more than anything else is supervision. While this supervision should be State, it might be association censorship. A board of censors could be appointed by the American Veterinary Medical Association, made up of representatives of its own body, the State associations and the college faculties. The Association has made certain requirements of its candidates for admission to the organization by setting a standard of school from which they shall have graduated. Unfortunately, there are two manifest weaknesses, viz. : the standard is too easily conformed to, and there is no formal attempt made to officially investigate the statements set forth in the annual announcements of the colleges. Justice can not be obtained from a court which depends wholly upon the defendants word as to whether he be guilty or not guilty. Each must be given a fair trial. In our opinion, it is within the province of the Ohio State Association to determine the status of the colleges of this State, and though it may not be able to regulate or bring about immediate reforms, it can set a standard of admission to its privileges—it can determine who shall constitute its membership. The standard should be high enough to look up to, not down upon. It should encourage the colleges to progress, not remain stationary—retrogress. This Association should be the strongest factor in veterinary policies and politics in Ohio.

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"*Veterinary Police*.—It is within the power of the municipal health boards to appoint veterinarians as inspectors of dairies, slaughter houses, markets, meat shops, etc. This is, however, not obligatory upon the boards. In Columbus the city dairy inspector is a veterinarian. It is very likely that within the next few days a veterinarian will be appointed meat inspector. Under present conditions in regard to meat and market inspection in this city, the work of the inspector cannot be made thorough enough to be of great hygienic value. Two things are needed: 1. To increase the number of inspectors so that the territory could be covered; 2. To abolish all proprietary slaughter houses and establish a central municipal abattoir where all slaughtering would take place. In this establishment meat inspectors would be stationed. Eventually, in our cities *market inspection* and *meat inspection* should be differentiated. Although both have a common interest in protecting the public against disease and fraud, their respective functions should not become confused. The establishing of public slaughter houses would be of the greatest benefit to the citizen and farmer. The citizen would be protected against diseased meat and its products, substitution of one kind of meat for another, and the fraud of having imposed upon him low grade meat at high grade prices. It is a fact that *apparently* healthy meat may when eaten prove not only unhealthful but toxic. The farmer would be protected against unscrupulous butchers and cattle dealers but would also find an avenue for the disposal of his cattle afflicted with local actinomycosis or tuberculosis. A proper system of meat inspection would, by assisting the State veterinarian and his deputies in veterinary police work, be the most important and reliable factor in the early determination of a disease outbreak. As all the offal from such an abattoir would be promptly rendered innocuous, the further spread of a given disease from that focus would be estopped. A community without a systematic meat (not market) inspection is nothing more than a mechanism for the perpetual propagation of diseases due to bacteria and animal parasites. It is our duty to assist in the education of the people in this regard. When they learn it is for *their* benefit and not for ours directly, they will set to work the proper mechanisms to cause these conditions to materialize. Such a system is to-day in vogue throughout cultured Europe. In this particular we are behind most civilized nations. Some progress has been made in having had placed in the hands of the State Board of Agriculture the control of the veterinary police of the

State. This report of this Board should interest every practitioner.

"Prosecution of Illegal Practitioners.—Compared with some of the other States, Ohio has been feeble in enforcing her veterinary law. With a State so rich in legal talent, it seems often possible for the guilty to escape punishment. As the law now stands, there are two things needed to secure its enforcement: 1. A person who can look after the prosecution of cases; 2. Money to assist in the prosecution. In the opinion of the Committee a part of the surplus in the treasury of this Association could be wisely expended in investigating and prosecuting all persons practicing veterinary medicine illegally. A few successful prosecutions leading to conviction and rustication would cause a veritable stampede of fakirs, dentists, emperics and medicine venders from our shores. It is the duty of this organization to do something active, aggressive and fruit-producing along this line.

"Literature.—Our literature in English during the past year has received but few additions. A few works, however, are worthy of note. The fifth volume of the series of Dr. Law's text-books on the theory and practice of veterinary medicine is now in print. It deals with parasitism. Like the others of the series it is a most thorough digest—more of a hand-book for reference than a text-book for students. Mr. Reeks, M. R. C. V. S., monograph on the colics of the horse is the most eminently practical and comprehensive treatise on this important subject in English. No practitioner could read it without profit. Dr. M. H. Reynolds, of the University of Minnesota, has just published a book entitled 'Veterinary Studies for Agricultural Students'. While, as its title indicates, it is not designed for veterinarians, it contains most modern suggestions in a very concise form. The description of 'Septicæmia Hæmorrhagica' in the ox, which is well illustrated by half-tone cuts from photographs, is obtained in this booklet first hand, the author having had a great deal of experience in the field with this fatal malady. Walley's book on 'Meat Inspection' has been thoroughly revised and enlarged. It is recommended to all veterinarians interested in sanitary police work. A book designed for the use of agricultural students written by Mr. Thompson, M. R. C. V. S., is quite a comprehensive volume for one of its scope. The author, a man of fifty years practice, describes a number unique cases which have come under his unusually long period of observation. In some scientific respects, however, it is faulty, the individual opinion

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of the author cropping out now and again in contradiction to many well-established facts. For instance, he rather disputes the presence of the spores of *bacillus tetani* in earth. He considers dry earth a valuable wound dressing. In another sentence, however, he speaks of the rarity of tetanus in horses in his locality, having seen but a few cases in forty years! Evidently the soil of this region is barren of this pathogenic germ. English veterinary literature will receive a most valuable contribution when Ostertag's 'Fleisch Beschau' is available to us in our own tongue. Dr Mohler, of the Bureau of Animal Industry, is translating the work. The new edition of Dr. W. L. Williams' translation of Pfeiffer's 'Operationskursus', 'Americanized' by numerous changes, omissions and additions, is now on the market. While intended primarily for college students, it is none the less valuable for the busy practitioner.

"*Anatomy*.—Through the persistent efforts of the professor of comparative anatomy in our State University, veterinary anatomy has received some contributions of inestimable practical value. The most accurate and painstaking study of the topographic anatomy of the stomach, the course and relationship of the œsophageal groove, and the determination of the normal position of the kidneys in the ruminant are a few examples of the results of his research and the profits of his teaching. When printed and made available to the profession at large in book form, our great need of a work of this kind—an anatomy 'which will do the busy practitioner some good'—will be adequately filled.

"*Surgery*.—For the past three years the surgical department of the State University has been studying the prevalency of podotrochlititis (navicular disease) among horses in Columbus. In all, 130 post-mortems were made. The results in brief are: (1) That 53 per cent. of the feet examined were found affected; (2) that neither the conformation of the horse nor the form of hoof had any etiological influence; (3) that in advanced cases the hoof form changes; (4) that podotrochlititis evidently begins in the *bursa podotrochliaris*; (5) ringbone and sidebone are frequent accompanying diseases; (6) pronounced lameness may be absent. The aseptic method of treating *hæmatomas* by simple incision, gently removing clots by massage and subsequent washing with antiseptics (no syringing) has proven more successful than any other treatment tried. The use of the actual cautery in the treatment of fistulæ of the foot ('quittor') has shown itself to be efficacious. Among the unique surgical operations

the one suggested by Dr. Williams for 'poll evil' deserves mention. It consists of draining the *supra-atloid bursa* anteriorly, by open wound, the crest of the occiput being channeled by a Luer's forceps. Healing is obtained in a fortnight. His book fully describes the operation.

"*Medicine*.—The value of prussic acid in the treatment of tetanus is again being talked about. The celebrated Zanesville case, which furnished so much 'copy' for the lay press, on investigation, has proven to be a myth. The use of air sterilized by being passed through cotton and forced into the udder in cases of parturient paresis has given as satisfactory results as iodide of potash. The use of formalin, intravenously injected, in the treatment of septicæmia in horses, deserves mention. Dr. Brumley's experiments will shortly appear in print. They were directed toward proving this point.

"*Necrology*.—Within the past few months our profession has lost several of its most celebrated members. Most noteworthy are the deaths of the two greatest authorities on internal veterinary medicine, Nocard of France, and Dieckerhoff of Germany, and that of Bayer of Austria, our greatest surgeon. All were men of great mentality. Their influence was greater than their respective spheres. Although the clay has claimed their bodies, the works they accomplished will ever live as monuments to their fame.

DAVID S. WHITE, }
"W. R. HOWE, } *Committee.*
"F. F. SHEETS, }

The Secretary read a sort of history of the Association, commemorating its twenty-first year, as follows:

BRIEF HISTORY OF THE ASSOCIATION.

By Secretary WM. H. GRIBBLE.

"*Mr. President and Gentlemen:*

"This being the twenty-first annual session of our Association, we thought perhaps you might be interested in knowing some of its history, previous to its attaining the age of majority. Your Secretary, being in possession of the books of record, is of course in a better position to know this than any other member, so has taken the risk of tiring you.

"During the early part of the year 1883, some one or more persons agitated the question of forming a State Veterinary Association; but who these agitators were, the records fail to enlighten us upon. A Mr. Daniel's name is mentioned, and he seems to have been considerably interested in the matter, but

who he was all his life a member

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who he was, and where he was from, I cannot tell you, as with all his interest the records do not show that he ever became a member.

On July 24, 1883, pursuant to a call from somewhere and somebody, about twenty-five veterinary surgeons met in the parlors of the Neil House, Columbus, Ohio, and effected the temporary organization of the Ohio State Veterinary Medical Association by selecting Prof. Townshend as Chairman and Dr. Cotton as Secretary.

"On permanently organizing, Dr. W. C. Fair, of Cleveland, was elected its first President, and Dr. J. M. Waddell, of Columbus, its first Recording Secretary. Graduates and non-graduates were alike eligible to membership; but as early as 1887, the non-graduates had shown their lack of interest in an association, by all but one having been suspended for non-payment of dues; so in 1889 a change was made in the By-Laws, so that after that date all applicants must be graduates. The one non-graduate remained a member until 1903, when he also allowed himself to be dropped from roll-call.

"The Association started off with a set of officers named: President; First Vice-President; Second Vice-President; Third Vice-President; Recording Secretary; Corresponding Secretary; Treasurer; and a Board of three Censors.

"Although no amendment is recorded of abolishing the offices of recording and corresponding secretaries, or rather of merging the two into one, we find that in the election for Jan., 1888, only a secretary was elected, and such has been the rule ever since.

"The Board of Censors seem to have been for the purpose of examining non-graduates only, and the amendment of 1889 having restricted the qualification of applicants to graduates, in 1890 the Board of Censors was abolished.

"In the year 1893 no annual session was held, but why the records fail to tell. During the first few years there seems to have been no regular or stated times for meeting, as three meetings a year were sometimes held.

"While the organization was effected July 24, 1883, Jan. 8, 1884, is recorded as the first annual session; and Dec. 27 of the same year as the second annual session; while the records call Sept. 2, 1885, and Jan. 12, 1886, the third annual session; but from then to now the January session has always been named the annual session and numbered consecutively.

"In the twenty-one years of its existence the Association has

had fifteen presidents, five secretaries; but only three treasurers. Dr. T. B. Hillock served in this latter capacity for the first three years, and, not absconding with the funds and jewels, has again for the last fourteen years been trusted with the cash bag. The present Secretary has been honored with his office since Jan. 14, 1891; of the original organizers, only five are still members, viz: T. B. Hillock, W. R. Howe, W. A. Labron, J. V. Newton, W. E. Wight. At the commencement of this session there were 110 names on the roster, yet we had only forty-five members in good standing. Of the one hundred and ten, seven have died, ten have withdrawn, three were expelled; forty have been suspended for non-payment of dues and five more are now in arrears. Of the original twenty who formed the Association in 1883, five died, four withdrew, one was expelled and ten were suspended. There were eighteen admitted during 1884, 1885; two died, three withdrew, one was expelled, and the other twelve were all suspended for not paying dues; and so it is, down through all the years the suspension for non-payment of dues has been our great drain; this cannot possibly be because of our annual dues, an insignificant \$1.00 per year. It is to be hoped that if the proposed new By-Laws be adopted, that part of this loss will be stayed, as in them the Secretary is ordered to notify every member twice during the year, and this surely will keep the matter of arrearage fresh in his mind.

"The colleges represented by our roster as near as we can determine are as follows: Ontario, 77; American, 7; Ohio, 5; Ohio State University, 3; Chicago, 3; Montreal, 1; New York, 1; Holland, 1; Vienna, 2; non-graduates, 10. During one session twelve new members were elected, all graduates from the same college.

"The colleges represented by the new members joining at this session are: Ontario Vet. College, 6; Chicago Vet. College, 4; Ohio Vet. College, 3; New York State Vet. College, 2; Ohio State University, 2; Indiana Vet. College, 1.

"At the annual session for 1895, the Committee on Veterinary Progress reported in favor of higher and uniform matriculation at veterinary schools, and that the course of study at such schools should be not less than three years of six months each, etc.; but it has taken until now, 1904, to embody this fact in our By-Laws and say that henceforth all applicants to this Association, graduating after this year, must be graduates of three-year colleges, and must have passed the Ohio State Veterinary Examining Board. Surely the mills of the gods grind slowly.

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"While for years our annual sessions have been held in Columbus, up to 1901 it was our custom to meet in hotels and private halls; but that year, and since, we have met at the Veterinary Department of the State University. Of course there are arguments used in opposition to this meeting place; nevertheless, the records show greater attendance and more enthusiasm since meeting there, and this is due in part to the fact of adding clinics at these sessions.

"We are now strong enough in numbers; have over \$400 in the treasury; that if every member will put his shoulder to the wheel, do his share of the work as it may be asked of him, and do it as if it were a pleasure, and not labor, then membership in this Association will be a coveted honor, and our united efforts show professional success."

NEW MEMBERS.

New members joining during this session were: J. L. Faragher, (Ontario), vouchers, F. F. Sheets, W. Shaw; Constant Lake, (Ontario), vouchers, L. P. Cook, W. R. Howe; Geo. Freese, (Ontario), vouchers, F. F. Sheets, J. V. Newton; G. C. Webb, (Ontario), vouchers, J. V. Newton, E. R. Barnett; Sol S. Snyder, (Ontario), vouchers, J. A. Meagher, P. A. Dillahun; A. D. Gemmill, (Ontario), vouchers, J. H. Blattenburg, F. E. Anderson; J. L. Axby, (Chicago), vouchers, L. P. Cook, J. A. Meagher; Fred Miller, (Chicago), vouchers, F. E. Anderson, J. H. Blattenburg; A. H. Collins, (Chicago), vouchers, J. V. Newton, F. F. Sheets; E. R. Hinkley, (Chicago), vouchers, S. Sisson, L. W. Carl; J. S. Lake, (Ohio), vouchers, W. R. Howe, L. P. Cook; E. O. Hess, (Ohio), vouchers, L. P. Cook, W. R. Howe; W. A. Axby, (Ohio), vouchers, L. P. Cook, W. R. Howe; W. E. A. Wyman, (New York State), vouchers, W. E. Clemons, F. E. Anderson; D. H. Udall, (New York State), vouchers, David S. White, W. H. Gribble; C. H. Sater, (Ohio State Univ.), vouchers, T. B. Hillock, S. Sisson; H. W. Brown, (Ohio State Univ.), vouchers, S. Sisson, T. B. Hillock; H. W. McMillen (Indiana), vouchers, Walter Shaw, F. F. Sheets. Each in turn was called upon and made his little speech.

It was proposed, duly debated and acted upon that during the first evening of the next annual session that we have a social session, each one to pay his apportionate share of the expense, and that the Secretary be specially instructed not to forget this important matter and arrange for the same.

Somewhat of a surprise was now presented to the Association in the form of a proposed veterinary law. It was duly debated

as to whether we should consider this proposed law, or adjourn for dinner and then meet in a session of clinics. It was finally decided to consider the law, drop the clinic, and not go to dinner as it was too late. Adjournment was had for twenty minutes for coffee and sandwiches, which were obtained in the University Buildings.

Reconvened at 2.15 P. M.

The proposed new Veterinary Act was read by the Secretary as follows:

"PROPOSED ACT

"To amend and supplement Sections 4412-1 to 4412-10 inclusive of the Revised Statutes of Ohio as passed May 21st, 1894.

"SECTION 1. Be it enacted by the General Assembly of the State of Ohio the sections 4412-1 to 4412-10 inclusive of the Revised Statutes of Ohio as passed May 21st, 1894, be so amended and supplemented as to read as follows:

"SECTION 4412-1. All persons who now, or shall hereafter, practice veterinary medicine or surgery in the State of Ohio, shall be examined as to their qualifications by a state board of veterinary examiners, to be appointed as hereinafter provided.

"SECTION 4412-2. No person shall practice veterinary medicine, surgery, or dentistry in any of its branches in the State of Ohio, without first complying with the requirements of this act.

"SECTION 4412-3. Any person shall be regarded as practicing veterinary medicine, surgery or dentistry within the meaning of this act who shall use the words or letters, "Doctor", "Dr.", "Professor", "Veterinary Surgeon", "Veterinarian", "V. S.", or "D. V. S.", or any other title, in connection with his name, which in any way represents him as engaged in the practice of veterinary medicine, surgery or dentistry in any of its branches, or who shall prescribe, or recommend for a fee any drug or medicine, appliance, application, operation or treatment, of whatever nature, for the cure or relief of any wound, fracture, bodily injury, infirmity or disease of any animal.

"SECTION 4412-4. Any person who successfully passes the examination before the state board of veterinary examiners shall receive from such board a certificate signed by the members thereof, which certificate shall state that the person to whom it is given has passed the prescribed examination and is competent to practice veterinary medicine, surgery and dentistry. A copy of such certificate shall be recorded by the clerk

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of the board in a book kept for that purpose which shall be open to public inspection. The person receiving such certificate shall, before entering upon the practice, leave his certificate with the probate judge of the county in which he resides for record. The probate judge shall record the same in a book kept for that purpose, and indorse on the margin of the record and on the certificate the time he received the same for record, and make a proper index of all such certificates recorded by him. In case of a change of residence the owner of a certificate shall have the same recorded by the probate judge of the county into which he removes. The probate judge shall receive for recording and indexing each certificate, fifty cents, and for certified copies, the same fees as are allowed by law for copies and certificates of records kept by the probate judge, to be paid by the holder of the certificates.

"SECTION 4412-5. Persons who have passed the requisite examination and received a certificate from the state board of veterinary examiners, and have continuously practiced veterinary medicine and surgery for five years, and no others, shall be qualified and be entitled to be employed as veterinarians by the state board of agriculture, state live stock commission and state and local boards of health.

"SECTION 4412-6. The state board of veterinary examiners shall consist of three members. Every year the Governor shall appoint a member for the term of three years, beginning at the expiration of the term of the next out-going member of said board as it is now constituted, said appointments to be confirmed by the Senate. Vacancies in said board shall be filled by appointment for the unexpired term. The members so appointed by the Governor shall be graduates of reputable but of different veterinary schools or colleges, and men of superior learning, personal skill and good moral character, and who are legally qualified to practice veterinary medicine, surgery or dentistry in the State of Ohio.

"SECTION 4412-7. The board shall meet at least twice a year—in April and in July—in the city of Columbus. The officers of the board shall be elected from its members and be a president, secretary and treasurer, who shall hold office for two years or until their successors have been elected and qualified. The secretary shall keep an accurate record of the business transacted and of the certificates issued as heretofore provided. He shall collect the fees to be paid by the applicants for examination and pay the same over to the treasurer and shall perform

such other duties as the board may prescribe. He shall keep a correct account of all moneys received and disbursed.

"SECTION 4412-8. The board each shall receive five dollars per day while in session and his actual expenses, to be paid by the treasurer out of the fees paid by the candidates for examination.

"SECTION 4412-9. A certificate shall be issued only when the board is satisfied that the candidate examined is well qualified and entitled to a certificate.

"SECTION 4412-10. Candidates shall present themselves for examination at the regular meetings of the board and shall pay for each examination the sum of ten dollars, which shall accompany their application in writing, and be paid to the secretary of the board previous to the regular meeting of the board. One half of the ten dollars shall be returned if the candidate fails in the examination.

"SECTION 4412-11. Whoever shall engage in the practice of veterinary medicine, surgery or dentistry in violation of this act, shall for the first offence, be fined no less than ten dollars, nor more than twenty-five dollars, and for the second offence not less than fifty dollars nor more than one hundred dollars, or be imprisoned in the county jail not more than sixty days, or both. Provided that nothing in this act shall be construed to prohibit any gratuitous veterinary advice or service in case of emergency if rendered by a person not entitled to practice under this act. Nor shall it apply to animal castration or dehorning of cattle. Nor shall anything in this act apply to persons, who, at the time of the passage of this act, hold certificates duly issued and signed by the state board of veterinary examiners in accordance with the provisions of an act, entitled 'An Act to regulate the practice of veterinary medicine and surgery' passed May 21, 1894, to which this act is amendatory and supplementary, excepting the provisions of SEC. 4412-4 of this act relative to the filing of certificates with the probate judge for record, which shall apply to all persons.

"SECTION 2. That said original sections 4412-1 to 4412-10 inclusive of the Revised Statutes, as passed May 21st, 1894, be, and the same are hereby repealed.

"SECTION 3. This act shall take effect and be in force from and after its passage."

As usual, this brought out the pro's and con's of eloquence, but a motion was finally adopted, empowering the Chair to appoint a committee of five, including himself, "to meet at such

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time and place as they see fit, to employ an attorney if they think necessary, and with full power to act, in presenting the proposed law to the Legislature." Committee as per the resolution: J. H. Blattenburg, N. W. Hillock, W. R. Howe, J. D. Fair, and H. W. Brown.

A motion was made by Dr. Newton, duly seconded and adopted, "that the Secretary of the Association be added to the committee, to act as its Secretary, and as soon as possible to forward every veterinary surgeon whose address he can obtain, a copy of the proposed law."

No further business appearing, the newly-elected officers now assumed their respective offices. Dr. D. S. White on taking the chair made a few very appropriate remarks.

The question of a semi-annual meeting was talked about, and finally decided that this year we have none. The Secretary was ordered to notify in due time all the members of the time and place of meeting at St. Louis of the American Veterinary Medical Association; and if some necessary business must be transacted, we hold a called meeting at that time.

President D. S. White appointed the following committees:
Veterinary Progress—Dr. S. Sisson, Dr. E. H. Shepard, Dr. F. F. Sheets.

Diseases—Dr. Paul Fischer, Dr. S. D. Myers, Dr. I. A. Ruby.

Clinics—Dr. O. V. Brumley, Dr. N. W. Hillock, Dr. D. H. Udall, Dr. L. W. Carle, Dr. H. W. Brown.

Adjournment.

WM. H. GRIBBLE, *Secretary*.

THE VETERINARY ASSOCIATION OF MANITOBA.

The annual meeting of this Association was held in the Committee Room of the City Hall, Winnipeg, on Wednesday, Feb. 24th, at 8 P. M., the President, Dr. W. R. Taylor, of Portage la Prairie, in the chair.

Members present: W. A. Dunbar, Winnipeg; W. S. Henderson, Carberry; J. H. Lipsett, Holland; C. Little, Winnipeg; W. E. Martin, Winnipeg; R. A. Monteith, Killarney; Hon. D. H. McFadden, Winnipeg; J. McGillivray, Manitou; L. McQueen, Teulon; J. A. Stevenson, Carman; W. R. Taylor, Portage la Prairie; F. Torrance and A. E. Williamson, Winnipeg.

The minutes of the last meeting having been read and adopted, the report of the Secretary-Treasurer and Registrar was presented. This showed the Association to be in a prosperous condition, having a membership of 80, and a cash balance

of \$273.15. The Auditors' report showed the books and accounts to be correct, and, on motion, both reports were adopted.

A letter from Dr. John R. Mohler, of the Department of Agriculture, Washington, inviting the Association to contribute towards the monument to the late Professor Nocard was received, and the sum of ten dollars voted to that purpose.

Dr. J. S. Clark, of Russell, called the attention of the members by letter to the fact that a druggist was permitted by law to sell only a small quantity of spts. frumenti upon a veterinary prescription, and that in one case where a druggist had filled a veterinary prescription for 1 gallon spt. frumenti, the license inspector had convicted him of infraction of the liquor law, and he was fined the sum of \$76.50. In the discussion which followed, several members took the ground that the liquor act should be amended so as to permit a maximum of one gallon to be dispensed on a veterinary prescription, and thought that an injustice had been done the druggist, who had no intention of violating the law. On motion of Dr. W. E. Martin, seconded by Dr. J. H. Lipsett, the Secretary was instructed to interview the Attorney-General upon the matter and try to have it righted.

The meeting then proceeded to the election of officers for the ensuing year. On motion of Dr. W. A. Dunbar, seconded by Dr. A. E. Williamson, the following gentlemen were appointed scrutineers: D. H. McFadden, W. S. Henderson and W. E. Martin.

A ballot was taken and the scrutineers reported the following elected to the Council: W. A. Dunbar, W. S. Henderson, J. McGillivray, W. E. Martin, J. S. Stevenson, F. Torrance, and A. E. Williamson.

The newly-elected Council then withdrew for a few minutes, and, on returning, the Secretary announced the election of the following officers:

President—J. S. Stevenson, Carman.

Vice-President—A. E. Williamson, Winnipeg.

Secretary-Treasurer and Registrar—F. Torrance, Winnipeg.

Examiners—W. E. Martin, F. Torrance and A. E. Williamson.

President Stevenson took the chair and in a few well-chosen words thanked the Association for the honor conferred upon him. He would endeavor at all times to further the interests of the Association.

The Hon. D. H. McFadden and Dr. A. E. Williamson were appointed Auditors for the ensuing year.

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The President addressed the meeting on the subject of new certificates of membership. Several members had spoken to him, and there seemed to be a general desire for a certificate of better design and appearance than the one at present issued, which seemed to him the most insignificant document of the kind he had ever seen. The Secretary had made some inquiries as to the cost of new certificates and it appeared that they could be obtained at a reasonable figure. After some discussion by the members present, it was moved by Hon. D. H. McFadden, seconded by Dr. J. McGillivray, that the Secretary, Dr. Little and Dr. Martin be a committee to secure new certificates of membership in this Association, and issue them to all members entitled to them. (Carried.)

Dr. A. E. Williamson then reported a case of open joint of the elbow treated by antiseptics without improvement. The horse was finally destroyed. Dr. Torrance had seen the case in consultation with Dr. Williamson, and had asked the Doctor to report it for the meeting, as a discussion upon the treatment of this common injury should prove interesting to all. Unfortunately for veterinary surgery, it was impossible to put in practice those operations, such as excision, that are performed successfully upon human beings. Our patients must recover with perfect motion in the joint, otherwise there is stiffness or lameness and the result is unsatisfactory. Consequently wounds of joints in horses are often very serious, and if any method of treatment can be found that is more successful than those at present known, it would be a great benefit to the profession. The application of blisters to the part had been more largely recommended than any other treatment, and he would like to hear the experience of the members.

Dr. Dunbar thought that blisters were not very successful in healing the open joint, but were beneficial in removing lameness after the wound had been healed. The treatment he now used was antiseptic. He cited one case in which he treated an open joint with collodion and iodoform and the horse recovered in five days. In this case the wound never became infected. After suppuration has become well established with ulceration of the articular surfaces, there is no hope of recovery if an important joint is involved, and the animal should be destroyed. Another point he touched on was the use of slings. He found his patients did much better when not in slings, and he avoided them whenever possible.

Dr. Martin always applied a blister if he saw the case early,

found it closed the wound and relieved the pain. He first disinfected the part, and the blister he used contained corrosive sublimate. He remembered one case he treated for several days with antiseptics without improvement; the horse was in great pain and would not eat; he applied a blister, and next day the horse was eating and feeling much better. As for slings, if the horse can stand, he should be slung. Blisters should be used early, but not after much suppuration has begun.

Dr. McGillivray had successfully treated a case of open coffin joint with snow. The joint was open through a penetrating wound in the sole of the foot, and had been discharging synovia for five weeks. Snow was then applied continually for a week, and the discharge gradually ceased, and the horse made a good recovery.

Dr. Henderson had treated a case of open stifle joint with powdered boric acid and nothing else. The horse recovered.

Moved by Dr. C. Little, seconded by Dr. J. McGillivray, that the semi-annual meeting be held in Winnipeg during the month of July. Carried.

Moved by Dr. Little, that a vote of thanks be tendered the City Council for the use of the Committee Room.

In seconding the motion Hon. D. H. McFadden took occasion to say he was glad to be with us to-night. He was reminded of the first meeting of veterinarians he attended in Winnipeg some twenty-three years ago. Only four remained of those at that meeting. The late Dr. Lipsett, brother of Dr. Lipsett of Holland, was then a member of the Legislature, and through him the first Veterinary Act was obtained. The people of Manitoba must think well of the Veterinary Association, as the Legislature has never been without a representative of the profession since that time. He would always take pleasure in attending meetings of the Association. The motion was carried.

Moved by Dr. Williamson, seconded by Dr. Monteith, that a vote of thanks be tendered the retiring officers. Carried.

Moved by Dr. Torrance, seconded by Dr. Little, that the prize offered by the Association for the best essay or case report be awarded to Dr. Williamson for his report on open joint. Carried.

Moved by Dr. Martin, seconded by Hon. D. H. McFadden, that a similar prize be offered for competition at the next annual meeting. Carried.

Moved by Dr. Little, seconded by Dr. Martin, that the proceedings be printed and distributed as usual. Carried.

The meeting then adjourned.

F. TORRANCE, *Sec.-Treas.*

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VETERINARY MEDICAL ASSOCIATION OF NEW YORK COUNTY.

The regular monthly meeting was called to order by President Dr. J. E. Ryder. The roll-call was dispensed with. Members present: Drs. E. B. Ackerman, Roscoe R. Bell, C. E. Clayton, R. Dickson, R. W. Ellis, E. A. A. Grange, F. C. Grenside, Wilfred Lellmann, D. J. Mangan, R. A. Mackellar, A. O'Shea, A. E. Parry, J. F. Robertson, J. E. Ryder, T. G. Sherwood and C. Schroeder. Visitors: Dr. Wm. Hayes, Dr. R. E. Jones, Dr. R. J. Schreiber, New York City, and Dr. A. F. Mount, Jersey City. Also students of the New York-American Veterinary College, and others. The minutes of the previous meeting were adopted as read. None of the committees had any reports to make.

Dr. Lellmann presented specimens of sarcomatosis of the lungs in a horse, and of tuberculosis in the cat. He gave a microscopical demonstration of the specimens, in which he employed three microscopes. In one he showed a slide containing a cross section of the lung, showing the stained small round cell sarcoma which he found in the horse; the other microscope showed a tubercular nodule undergoing necrosis in its centre, and the third exhibited the stained tubercle bacillus. The last two specimens were obtained from the cat. Dr. Lellmann found the case of sarcomata in a black gelding, 15.2, about 16 years old, and, according to owner, had been sick about two or three months. The animal was in an emaciated state; the visible mucous membranes appeared to be anæmic, pulse 60 to 70, respirations 40 to 50 per minute, and the temperature about 102° F. Auscultating the thorax he found on both sides of the lower regions of the lungs an entirely suspended or absence of respiration, while the upper regions showed a decided bronchial bruit and râles of different character; also a pleuritic friction sound was noticed. Percussion revealed a pronounced dullness on both sides of the lower thoracic walls. The dyspnoea appeared to be pronounced on expiration as well as on inspiration, but during the former (expiration) the lumbar region of the vertebral column would raise about two to three inches. There was very little cough to be noticed during the whole observation of the patient, which lasted for a week or two. Dr. Lellmann made a test puncture on both sides of the thorax between the sixth and seventh ribs, midway between the middle and lower thirds, but no fluid whatsoever could be drawn. On the strength

of this examination, everything but a neoplasm or a general cellular infiltration could be excluded. The condition of the horse being hopeless, he was destroyed, and a post-mortem held at once. The post-mortem revealed, macroscopically, the lungs to be almost in a complete state of inspiration. The color of the lungs were yellowish-white; the consistency almost hard. The surfaces showed a great many elevations of different sizes, some reaching that of a walnut. On cross section the tissue appeared to be of a medullary character, and on scraping the cut surface with the back of the knife, a whitish almost milk-like liquid was discharged. Between the whitish hardened tissue, there were very fine isles of pale pinkish color. The bronchial glands were very much enlarged, having the size of a man's fist. The mediastinal glands were somewhat larger. The costal pleura had a whitish and thickened appearance. The microscopical examination showed the characteristics of a small round cellular sarcomata, with scant fibrous tissue in some places, and a more ample deposit of fibrous tissue in other places, especially in the peri-bronchial tissue. Dr. Lellmann then described the differences between the structure of sarcomata, and that of carcinomata.

He followed this with a brief history of the case of tuberculosis in the cat, which was a male Angora, about three years old, which had developed, according to the owner's statement (who by the way is a surgeon), an abscess below the larynx. This abscess was opened by the owner, and he treated it for several weeks; but the wound showed very little inclination to heal, and, in the meanwhile, the animal rapidly became emaciated. On the owner's request to examine the cat, Dr. Lellmann found the wound in front of the trachea right below the larynx. This wound had the size of a dime and showed very flabby and exuberant granulations. With a probe he found a pocket which had formed, following the course of the trachea and extending to the sternum; another fistula ran from the wound to the cervical part of the vertebral column. Near the wound almost at the opening there was an enlarged gland the size of a hazel-nut; at the lower region of the neck near the entrance of the thorax a decidedly enlarged gland could also be detected. Auscultation of the lungs did not reveal anything abnormal. Considering the history of the case, and basing on the results of the examination, it was decided to chloroform the animal on account of the strong suspicion of tuberculosis. The post-mortem showed a pronounced miliary tuberculosis principally of the posterior lobe of the right lung. The bronchial and mediastinal glands were

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somewhat enlarged. All the other visceral organs were apparently in a normal condition. Among the developed tubercles a number of fibrous tubercles could be seen. The posterior lobe of the right lung contained innumerable miliary tubercles of a yellowish-whitish and of a yellowish-grayish color. The microscopical examination showed a decidedly interesting picture of tubercular infection. Dr. Lellmann described the pathological and microscopical structure of a tubercle; the staining of the tubercle bacilli, and the method he employs in preserving specimens. The piece of lung containing the tubercles was examined by all who were present, and the sarcomatous lung of the horse came in for a great deal of attention. Considerable time was occupied in examining the microscopical specimens, which brought forth many questions from the members, which Dr. Lellmann kindly answered.

In answer to one question the Doctor said that he has met with a few cases of tuberculosis in cats, and thinks that the disease is common among them, but veterinarians do not find it very often due to the fact that they are seldom called upon to treat cats.

Dr. Ellis said that the officers and members should be congratulated upon having Dr. Lellmann give such a grand and interesting demonstration, which was very instructive; and he moved that the Doctor be extended a sincere vote of thanks for the same. His motion was seconded, and carried at once.

Dr. Lellmann thanked the gentlemen for their appreciation, and he promised to have other interesting specimens at future meetings of the Association.

Dr. Robertson stated that he did not have his paper on "Weaving" ready.

During the reports of cases, azoturia came under discussion. Dr. Mangan cited two cases in which the animals were taken down with the disease in their stalls; incidentally it was mentioned that the natrium bicarb. treatment was applied. One died on the third day and the other recovered. In the case that died there was an improvement noticed in the condition of the muscles affected; they becoming appreciably softer and flabby about thirty-six hours after the animal had been taken ill. The animal, a gray horse, was in a very bad condition when seen; the hip and shoulder muscles were hardened and swollen to a great extent; the urine extremely viscid, and blackish-brown in color. The penis was in a very severe state of spasm and resisted, for nearly an hour, all attempts to withdraw it from the sheath.

Drs. Clayton, Ackerman, Schreiber, Ellis and Lellmann discussed the efficacy of natrium bicarb. in the treatment of azoturia. Drs. Schreiber and Ellis stated that they obtained very favorable results from it.

Dr. Lellmann described the effects and actions of natrium bicarb. in azoturia.

Dr. Parry asked if some one could recommend a treatment for atrophy of the muscles following azoturia. Dr. Lellmann suggested the use of one grain of veratrin puri in one and a half drachms of a seventy per cent. alcohol solution, this to be injected into the affected muscles, repeating the injection in two or three days. Make in all five or six injections.

Dr. Parry moved that John Brooks, the janitor, receive a donation of five dollars from the Association, for the benefit of the "Colored Widows and Orphans Home." The motion was regularly seconded and carried.

Dr. Ellis had no paper ready, but gave some valuable advice regarding the care of the horse's teeth, in which he said that veterinarians too often paid little attention to their care, allowing those in charge of the horse to call their attention to the condition of the horse's mouth. This apparent indifference, Dr. Ellis thought, on the part of qualified veterinarians, made the way easy for self-styled veterinary dentists to come to the front and humbug the horse-owner. He then spoke of the normal mouth, and of the immense development of the premolars in the horse, compared with those of other animals. Regarding the so-called "wolf teeth," the Doctor considered them nothing less than vestigial premolars; four premolars having been found in the pre-historic horse. Dr. Ellis said that in adjourning to the clinic room, he was not going to attempt to show any new operations on the teeth, but simply show another way of doing an old one. The members and visitors then proceeded to the clinic ward of the college, where Dr. Ellis showed them the use of the "Twentieth Century Dental Float" and the "Veterinary Dental and Surgical Halter." The "halter" held the horse's head in a most convenient position for operation upon the teeth; it being possible with this appliance to raise or lower the horse's head to a position convenient to the operator. The animal could not turn its head to either side, nor did the "halter" interfere with the manipulation of the mouth or operation. With the horse thus held, Dr. Ellis proceeded to float his teeth with the power float; it was but the work of a few moments to perfectly smooth off the projecting edges, despite the fact that the molars

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were very hard, long and in a state of neglect. Dr. Ellis stated that the little roller cutters made about two thousand revolutions per minute. A number of the members present examined the horse's mouth before and after the operation, and remarked how smooth the float left the teeth; they evidently were greatly pleased with its simplicity and practicability.

The meeting was then adjourned.

D. J. MANGAN, *Secretary*.

MISSOURI VALLEY VETERINARY ASSOCIATION.

The 39th regular meeting of this Association was held in Kansas City, at the Kansas City Veterinary College, corner of Fifteenth Street and Lydia Ave., on Monday, Feb. 15th, 1904, with the largest attendance in the history of the Association. The meeting was called to order at 9.30 A. M. by President Dr. F. F. Brown. About 75 veterinarians and over 200 students were present. The following is a partial list of the veterinarians present: *Missouri*.—Drs. D. F. Luckey, Columbia; O. J. Phillips, Holden; E. V. Robnett, Higginsville; F. M. Starr, F. E. Bishop, Odessa; C. E. Steele, E. J. Netherton, C. N. McFarland, A. N. Reber, X. I. Richmond, J. E. Blackwell, St Joseph; C. E. Chenoweth, Albany; L. D. Brown, Hamilton; W. Warren, Windsor; R. H. Carswell, A. Trickett, A. Byrd, F. H. Davis, W. H. Gatchell, F. T. Allen, G. W. Werner, Geo. W. Merker, Geo. B. Nicholas, L. D. Palmer, R. C. Moore, F. F. Brown, S. Stewart, S. E. Bennett, O. A. Stingley, J. F. Tippet, M. A. Sappington, W. F. Lavery, J. D. Cooper, W. R. Cooper, B. F. Kaupp, A. L. Hunt, E. M. Nighbert, F. I. Wynant, H. C. Babcock, F. L. Kampschmidt, E. E. Hubbard, Kansas City. *Kansas*.—Drs. John Nott, Clay Center; D. O. Knisley, Topeka; N. S. Mayo, Manhattan; C. B. McClelland, Lawrence; W. T. King, Olathe; W. L. Elliott, Paola; W. N. Hobbs, Holton; A. Plummer, R. H. Powers, Ft. Riley; S. L. Hunter, O. M. Norton, Ft. Leavenworth; Chas. Saunders, Eldorado; C. M. Crandall, Seneca; E. C. Lahr, Sabetha; T. W. Hadley, F. W. Weston, H. M. McFarland, M. C. Lint, J. S. Groves, E. N. Stout, Kansas City. *Nebraska*.—Drs. H. L. Ramacciotti, Omaha; J. D. Sprague, David City; J. S. Anderson, Seward; A. Bostrom, Minden; H. Jensen, Weeping Water; W. A. Thomas, Lincoln; V. Shaeffer, Tekamah; H. E. Foster, Falls City. *Iowa*.—Drs. J. H. McNeall, Ames; D. H. Miller, Harlan; Killip, Mt Pleasant. *Oklahoma*.—Dr. G. J. Roach, Manchester. *New York*.—Dr. W. J. Guil-

foil, Auburn. *Minnesota*.—Dr. E. F. Frank, Warren. *Montana*.—Dr. J. G. Veldhuis, Big Timber. *Michigan*.—Dr. Z. Veldhuis, Fremont.

The meeting proceeded to the regular order of business. After roll-call and reading of minutes of previous meeting, 26 names were presented for membership after having been reported favorable by the Board of Censors. Upon motion, which was seconded and carried, the Secretary cast the vote of the Association for the following to become members of the Association: *Missouri*.—Drs. Atvill Byrd, D. F. Luckey, F. M. Starr, O. J. Phillips, Geo. W. Merker, J. W. Connoway, V. J. Andre, Geo. B. Nicholas, J. D. Cooper, J. F. Tippet, E. V. Robinett. *Kansas*.—Drs. W. L. Elliott, F. W. Weston, O. M. Norton, John Nott, D. O. Knisley, N. S. Mayo, R. H. Power, A. Plummer. *Nebraska*.—Drs. J. S. Anderson, H. Jensen, H. L. Ramacciotti, A. Bostrom, W. A. Thomas. *Iowa*.—Dr. J. H. McNeall. *Oklahoma*.—Dr. G. J. Roach.

Amendments were introduced to change the Constitution and By-Laws as follows:—To authorize semi-annual meetings January and July. Requirements for membership shall conform to those adopted by the American Veterinary Medical Association. A resolution was adopted creating a committee on legislation with instructions to cooperate with committees on legislation from State Associations endeavoring to secure needed veterinary legislation in the States bordering on the Missouri River. The President appointed the following on this committee: Dr. A. Plummer, Fort Riley, Kans.; Dr. H. Jensen, Weeping Water, Neb., and Dr. L. D. Brown, Hamilton, Mo.

Upon motion, which was seconded and carried, \$20 was voted to the Nocard Monument Fund.

The following papers were then presented: Dr. N. S. Mayo, of the Experiment Station of Kansas, under the subject of "Scabies in Cattle and Treatment," gave a graphic account of scabies as he found it in that State. The following are some interesting points brought out in the presentation of the paper and discussion: Attention was called to the fact that the only disease that may be mistaken for scabies is lousiness, but in scabies the scabs pile up, forming thick crusts fully $\frac{1}{2}$ inch thick, where they are not rubbed off, a condition not found in lousiness. In field work it was his method to scrape off scabs close to skin, place in bottle, and left in sunshine or warm place, the mites will soon leave scabs and on close examination can be seen crawling over wall of bottle, appearing as small white

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specks. As to dips, practically all dips had been used, with the best success with the lime and sulphur dip, in proportions of 8 pounds lime, 21 pounds sulphur, and 100 gallons of water. Lime should be slacked to paste, then mixed with sulphur as it is boiling. If sulphur is not sufficiently dissolved by boiling, the lime may have caustic effect. Dr. W. A. Thomas, State Veterinarian of Nebraska, stated the best results were obtained when dip was boiled at least one hour. If hard water is used sal-soda or other similar substances must be used to cut the water. In using coal tar dips, when dip was not thoroughly mixed, weak animals are sometimes noted to go down, froth at the mouth, and die. Dip used at a temperature of 108 to 116° F., cattle left in two minutes, completely submerged twice. Two dippings are necessary, about two weeks apart. Various vats were used, the swim vat proving most satisfactory for large herds. In vat with the swinging table, cattle were liable to hurt themselves. For small bunches the cage dipping arrangement was very satisfactory. The cage vat can be built for about \$100, the the swim vat costing much more. The cage vat was so arranged as to operate by horses. The dip in vat has been kept warm by steam from traction engine. Dr. McNeall, of Experiment Station of Iowa, asked method of disinfecting posts, fences, etc. Dr. Mayo stated that the sediment from the dip had been used satisfactorily. Dr. Thomas asked effect upon lice. Dr. Mayo said it was the best method of eradicating the parasite from a bunch of cattle.

Dr. L. D. Brown, Assistant State Veterinarian of Missouri, presented the subject of "Parasite Invasion in Cattle Producing Scours," and the serious loss to many herds. It developed in the discussion that followed that this malady was prevalent throughout a considerable part of the State of Missouri and surrounding States, the cause being due to members of the family strongylidæ.

Dr. W. A. Thomas presented some phases of the problem of the control of tuberculosis, particularly in dairy herds. His remarks led to a general discussion of means by which this is to be accomplished, and to the necessity of honesty and intelligent effort on the part of veterinarians everywhere in this great work.

Dr. H. Jensen, of Weeping Water, Neb., presented an interesting paper upon the subject of "Pharmaceutical and Therapeutic Preparations of Interest to Veterinarians,"* giving sug-

* Will be published in any early number of the REVIEW.

gestions as to methods of preparing several drugs and compounds of especial use. The paper brought out a good discussion, and, in accordance with a vote of the Association, the Secretary has sent a copy of the paper to the REVIEW for publication.

At 12.00 M. the meeting adjourned to luncheon, which was served in the College Auditorium under the direction of the committee on local arrangements.

At 1.00 P. M. a clinic was held in the clinical amphitheatre of the Kansas City Veterinary College, which has a seating capacity of 300. The amphitheatre was well filled by veterinarians and students. The first animal confined on the operating table was for the operation of arytenoideraphy, by Dr. J. S. Anderson, of Seward, Neb. Upon making an opening into the larynx, an abscess was observed in the right ventricle, and behind the vocal cord. The right vocal cord and one branch of the thyro-arytenoideus muscle was removed, the cord being paralyzed, and to give drainage to small abscess in that locality. Dr. V. Schaeffer, of Tekamah, Neb., performed median neurectomy. Dr. R. C. Moore, of the Kansas City Veterinary College, removal of lateral cartilage for cartilaginous quittor. Dr. J. H. McNeall, of Ames, Iowa, tenotomy for relief from contraction of perforans tendon, also Bossi's double tarsal neurectomy. Many interesting cases for diagnosis were presented. The clinic was of unusual interest and lasted till 6 o'clock.

At 7.30 P. M. the evening session was called to order, when the following papers were presented: Dr. S. E. Bennett, chief of the local branch of the U. S. Bureau of Animal Industry, gave a graphic account of the stamping out of contagious foot-and-mouth disease in the New England States, he having had charge of the work during the progress of the plague. Many incidents showing the difficulty of administration and the persistence of some stock-owners in their efforts to evade sanitary regulations were cited. The following are some of the interesting points brought out in the paper and discussion that followed: A cow after five months from time of apparent recovery may spread the disease; abscess formation in udder is a frequent occurrence; the method of spread of disease is not always easy to determine; one outbreak was traced to dogs carrying the infection, another to pigeons picking up feed from infected barn-yard, while still another was supposed to have been carried by rats; the period of incubation is from five to eight days; most prominent symptoms are smacking of jaws, dribbling of

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ropy saliva from mouth, vesicles on udder, and between toes; cases sometimes found where there are foot lesions but no mouth lesions; animals lie down or change from one foot to another on account of conditions in feet.

Dr. O. A. Stingley, Inspector Bureau of Animal Industry, Kansas City, presented a carefully prepared paper on the subject of "Rabies," which was interesting and brought out a good discussion.

Dr. C. B. McClelland, of Lawrence, Kansas, reported the peculiar influence of the waters of the Kansas River flood upon live stock, which were, for a time, partly submerged. It seems from his report and that of others that the flood waters affected the skin of animals very much like a weak solution of concentrated lye, burning the surfaces exposed, swellings appearing, followed by sloughing.

At a late hour the meeting adjourned.

B. F. KAUPP, D. V. S.,
Secretary.

MINNESOTA STATE VETERINARY MEDICAL ASSOCIATION.

The seventh annual meeting of this Association was held at the Merchants' Hotel, St. Paul, Minnesota, January 13th and 14th, 1904, and was called to order at two P. M. by Dr. K. J. McKenzie, President.

Roll-call showed the following members present: Drs. C. C. Lyford, R. Price, B. Lambrechts, J. G. Annand, G. McGillivray, M. J. Sexton, J. W. Cook, O. Rydell, G. Ed. Leech, M. H. Reynolds, L. Hay, S. H. Ward, W. Amos, H. C. Lyons, A. F. Lees, J. McKay, N. A. Christianson, E. L. Kalb, S. D. Brimhall, K. J. McKenzie, G. A. Dallimore, J. N. Gould, H. C. Peters, J. P. Foster, D. M. McDonald, C. A. Mack, and R. Kjerner. Drs. Youngberg and Eckles came later.

The minutes of the last semi-annual meeting were read by Dr. Ward, Secretary *pro tem.*, and approved.

Report of Treasurer was next given and then handed to the Committee on Finance, which reported favorably and was accepted by the Association.

The applications for membership of the following were favorably acted upon and duly elected to membership: Drs. Osman W. Stanley, Sauk Centre; C. C. Lipp, St. Anthony Park; J. P. Graff, New Ulm; F. G. Ketchum, So. St. Paul; A. Spence,

Hallock; J. M. Douglas, Hendrum; J. H. Newman, St. Cloud; W. H. Whitcomb, Plainview; and R. C. Nickerson, Zumbrota.

Next in order was the report of committees. Dr. Lyford gave his report on colleges, as follows:

"It is interesting to notice in the January number of the AMERICAN VETERINARY REVIEW a letter from Dr. A. Liautard reporting some very marked improvements in length of course and advanced standard of many of the English and Continental schools. An article in favor of two-year colleges is also to be found in the same number of this journal on one of its last pages. It speaks volumes for the two-year system of schools.

"Since my last report on colleges at our summer meeting, no change for the betterment of courses has been reported from any of the colleges which conduct a two-year system, notwithstanding that a decided effort was made by the graduates of the Ontario College, at the last meeting of the A. V. M. A., in favor of making this school a three-year college. Had the graduates of this college a voice in the matter, it would long ago have been on the list of three-year schools.

"The Kansas City Veterinary College, one of our progressive three-year schools, has lately moved into a new building, constructed for the sole purpose and convenience of this institution. Judging from the size of the structure, one might suspect it would be some time before its capacity might be reached, but as this college is reported to have nearly two hundred students the prospect is good for its being filled to its limit in the near future.

"We are now confronted with a new departure in the way of correspondence schools. These schools, according to report, are located at Sioux City, Iowa, and at London, Ontario. Students claiming to have diplomas from these institutions have already asked if they may be allowed to present their diplomas and receive a State certificate. It is hardly necessary to state that our examining board has no intentions of recognizing this class of institutions.

"A new quarterly review has been added to our list of journals by the Kansas City College, which should prove beneficial to both students and graduates of that institution.

"The *Journal of Comparative Medicine and Veterinary Archives* seems to have forgotten its subscribers, as it is long since overdue—May, 1903, I believe, was its last effort."

Dr. Brimhall reported on infectious diseases in the State from July 1st to Dec. 31st, 1903, as follows:

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"*Black-leg*.—There have been 52 deaths during the past six months reported from this disease.

"*Cerebro-Spinal Meningitis*.—The disease has been reported to exist in the following counties: St. Louis, Rock, and Faribault, but there has been no serious outbreak.

"*Hæmorrhagic Septicæmia*.—There have been 48 deaths reported from this disease, which has been scattered over about 15 counties.

"*Rabies*.—The disease has been reported in the following counties: Rice, Hennepin, Mower, Blue Earth, Anoka, McLeod, Faribault, and Washington. Deaths have been as follows: 36 dogs, 16 cattle, 3 horses.

"*Actinomycosis*.—Veterinarians throughout the State have reported more or less of this disease.

"*Scabies*.—We have had reports from the Federal authorities of 3337 sheep affected with this disease. Nearly every farm from which the diseased sheep were shipped has been visited, and instructions, etc., given.

"*Swamp Fever*.—The disease has been reported by veterinarians as existing in ten counties, one or more animals dying from the disease. The counties in which the disease existed are as follows: St. Louis, Washington, Kittson, Becker, Polk, Stearns, Marshall, Norman, Meeker, and Clay.

"*Tuberculosis*.—There have been 3712 cattle tested, and of these 472 have reacted to the test and have been killed, the State paying three-fourths of appraised value.

"*Glanders*.—Number inspected, 2370; killed on inspection, 144; tested on inspection, 186; reacted when tested, 71; killed after test, 50; quarantined for retest, 43; reinspected, 79; killed on reinspection, 4; retested and released, 11. Total killed, 198.

"*Hog Cholera*.—The disease has been reported in 26 townships scattered through 16 counties. With the exception of Lac qui Parle and Yellow Medicine counties, the disease has been confined mostly to one farm."

Committees on Bacteriology, Surgery and Medicine had no reports to give.

Dr. Ward, Chairman of Committee on Legislation and Empirics, gave a concise report of the difficulties encountered by the State Veterinary Examining Board in dealing with recent applicants for State license to practice veterinary medicine, surgery and dentistry.

Under new business Dr. Reynolds called for the resolution

that was laid on the table at the July meeting. After the reading of the resolution, Dr. Ward made a motion, seconded by Dr. Dallimore, that the resolution be thrown out. Considerable discussion ensued before the President put the motion. After quite a heated discussion, Dr. Leech offered an amendment, seconded by Dr. Cook, that the resolution be obliterated from the minutes of the Association. The amendment was carried.

The Association adjourned for supper.

At the opening of the evening session came the election of officers. Dr. Hay, of Faribault, was the unanimous choice for President. So was Dr. McGillivray, of Spring Valley, for First Vice-President, and Dr. Price, of St. Paul, for Second Vice-President. Dr. Annand, was elected Secretary and Treasurer.

Moved by Dr. Lyford, seconded by Dr. Leech, that Dr. J. N. Gould, Dr. Brimhall and Dr. Peters be retained as Trustees for the ensuing year.

After election of officers, Dr. Price led a discussion on azoturia. Upon experimenting on the smaller animals the Doctor claims that he can produce the same conditions as found in azoturia by injecting hypodermically glycolic acid, but had not carried the experiment far enough to state that azoturia was due to this acid.

Dr. J. N. Gould read a well prepared paper on "The Gubernaculum Testes in Cryptorchids."

Dr. Lyford presented a paper on "Cystic Tumors."* This paper was very interesting from a surgical standpoint.

Meeting adjourned to meet the following forenoon, January 14, 1904.

Meeting called to order by President Hay, at 10 A. M.

Dr. McGillivray reported an interesting case of tetanus in one of his driving horses. The discussion that followed brought out one thing and that was that tetanus antitoxin was considered reliable as prophylactic treatment, but of little or no value as a curative agent.

Dr. Youngberg presented a paper on "Practical Antiseptics in Operative Surgery,"* which was a very good one. He disapproved the use of all the coal tar products, as nearly every barn-man and horse-owner was familiar with those preparations, which consequently reflected discredit upon the practitioner. Dr. Cook thought it was very poor policy for veterinarians to endorse these common antiseptics and permitting their names

* Will be published in an early number of the REVIEW.

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Dr. Christianson read a paper in the form of a report upon the subject of "Abscess of the Anterior Mediastinum." * This was an interesting case, as it is of infrequent occurrence.

It was moved and seconded that the Secretary have a directory printed with the names of all the licensed veterinary practitioners in the State, one copy to be mailed to each member of our Association. There are to be 500 copies issued. Copies of the directory are to be furnished to anyone who is not a member of our Association and to members of our Association requesting extra copies, for the sum of one dollar for each copy.

Moved by Dr. Lees, seconded by Dr. Leech, that a vote of thanks be extended to the out-going officers for their excellent service.

President Hay appointed the following committees for the year :

Colleges, Dr. M. H. Reynolds ; *Infectious Diseases*, Dr. S. D. Brimhall ; *Bacteriology*, Dr. R. Price ; *Surgery*, Dr. J. P. Foster ; *Medicine*, Dr. J. W. Cook ; *Legislation and Empirics*, Drs. S. H. Ward (Chairman), C. C. Lyford and A. Youngberg ; *Finance*, Dr. G. Ed. Leech ; *Press*, Drs. J. G. Annand (Chairman), K. J. McKenzie and D. McDonald ; *Resolutions*, Drs. A. F. Lees (Chairman), O. W. Stanley and G. Ed. Leech.

It was moved by Dr. Leech and seconded by Dr. Cook that the President appoint two other members of the Association to act with Dr. Reynolds on the Committee on Colleges. This committee is to investigate and report on the moral and educational standing of the different colleges whose graduates can be recognized and admitted to our Association as members. Dr. Lyford and Dr. Foster were added to the committee on colleges. Dr. Lyford wishing to withdraw from the committee, as he has served on that committee so long, Dr. Ward was appointed in his stead.

Meeting adjourned for dinner.

At 2 P. M. the Association assembled at Dr. Pomeroy's infirmary for the clinic. There were no operations performed. A number of cases of lameness were on hand.

J. G. ANNAND,
Secretary.

* Published elsewhere in this number.

THE ILLINOIS STATE VETERINARY MEDICAL ASSOCIATION.

The twenty-second semi-annual meeting of this Association was held in Peoria, Illinois, at Hotel Fey, February 23, 1904.

The meeting was called to order by the President, Dr. A. H. Baker, at 10 A. M. The minutes of the previous meeting were read and approved. The following members were present: Drs. John Scott, Peoria; A. H. Baker, Chicago; R. F. Hoadley, Yorkville; J. S. Hollingsworth, La Salle; T. P. Brankin, Joliet; R. C. Mylne, Aurora; C. C. Mills, Decatur; M. C. Eckley, Galesburg; N. W. Kyle, Colfax; Jas. Smellie, Eureka; H. A. Pressler, Fairbury; N. I. Stringer, Watseka; J. T. Nattress, Delavan; W. J. Martin, Kankakee; E. J. List, Havana; F. H. Ames, Canton; C. S. Hayward, Mattoon; C. D. Hartman, Peoria; W. H. Robinson, Peoria; W. H. Welch, Lexington; H. B. Cale, Macomb.

Dr. M. C. Eckley, of Galesburg, made application for membership, and was duly elected.

It was moved and seconded that the President, Vice-President, Secretary and two members, to be appointed by the Chair, be constituted a committee to memorialize the numerous candidates for the office of Governor to appoint to the office of State Veterinarian (in the event of their election) a graduate of a recognized veterinary college. Also to obtain from them an expression as to whether they would or would not do so in the event of their election. Carried.

The Secretary was ordered to acquaint the members with the replies of the various candidates, and all the members present pledged themselves to support that candidate in the coming fall election who replied favorably to our request, regardless of politics.

It was moved and carried that the President be appointed to officially represent our State Association at the meeting of the American Veterinary Medical Association at St. Louis next September. Moved and carried that the Secretary be empowered to purchase suitable badges bearing the word "Illinois" for the use of our members.

The following bills were allowed: Printing and stationery, \$16; Secretary's fees, \$10; stamps, \$5; total \$31.

A motion was made and carried to accept the invitation of Messrs. Sutliff & Case to visit their drug house.

Society adjourned to meet at 2 P. M.

The following interesting and instructive papers were read

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by the following members, and were all quite extensively discussed: Dr. T. P. Brankin, "Influenza"; Dr. R. C. Mylne, "Simple Home Remedies in the Hands of Farmers"; Dr. C. S. Hayward, "Metritis in the Mare"; Dr. Jas. Smellie, "External Ulcerative Ano-Vulvitis of Cattle"; Dr. A. H. Baker, "A Freak of Nature in a Jersey Cow"; Dr. H. B. Cale, "Pneumonia"; Dr. J. S. Hollingsworth, reports of cases.

Society adjourned to meet in Chicago, December, 1904.

W. H. WELCH, *Secretary*.

SCHUYLKILL VALLEY VETERINARY ASSOCIATION.

The semi-annual meeting of this Association was held at the Board of Trade Room, Reading Pa., on Dec. 17th, 1903. The meeting was called to order by the Vice-President, Dr. G. A. Wehr, Denver, owing to the absence of the President, Dr. F. H. McCarthy, Pottsville.

The following members answered to their names: Drs. D. R. Kohler, Boyertown; G. A. Wehr, Denver; Otto G. Noack, Reading; F. H. Schneider, Philadelphia; W. S. Longacre, Mantz; U. S. G. Bieber, Kutztown; A. R. Potteiger, Selinsgrove, and W. G. Huyett, Wernersville.

As there were matters of much interest to be discussed in the course of the day, the usual business routine was called for at once. The minutes of the previous meeting were read and confirmed. The Secretary's and Treasurer's reports were read and approved, showing the finances to be in a favorable condition.

A number of communications were then read, among the most important being those from Dr. E. M. Ranck, President Pennsylvania State Veterinary Medical Association, Natchez, Miss., regretting his inability to be present, and inviting this Association to be ably represented at the State meeting in Philadelphia in March, and from Dr. John R. Mohler, Department of Agriculture, Washington, D. C., relative to the proposed monument to the late Prof. Nocard.

The Vice-President not being prepared to offer a President's address, instead related his experience with an interesting case of a mare, having been pregnant twenty-seven (27) months, died and upon post-mortem found the foetus to be mummified. Similar cases were henceforth related by Drs. Potteiger, Noack and Longacre.

In consequence of the communication from Dr. Jno. R. Mohler, Department of Agriculture, Washington, D. C., a mo-

tion was made and seconded that the sum of ten dollars be sent to Dr. Mohler as a contribution toward this fund.

At the instance of Dr. Wehr, Denver, reporting before the society of one Jno. Prison, Ephrata, Pa., who declares himself a veterinary surgeon, the Secretary was instructed to inform the Secretary of the State Board of Examiners of this illegal practitioner.

Dr. F. H. Schneider gave an excellent report of the Keystone Veterinary Association.

The meeting adjourned for luncheon.

The President opened the meeting after lunch, when Dr. Noack, as delegate to the recent convention of the American Veterinary Medical Association, responded in an eloquent manner, giving a synopsis of the work accomplished and further declaring it the best National meeting he ever attended, which goes to admit that the Association is making great strides of advancement.

Dr. W. S. Longacre read a particularly interesting paper on "Fractures: Diagnosis, Causes, Symptoms and Treatment." It elicited many instructive points and general remarks from many of the members.

Dr. D. R. Kohler read a paper entitled "Laminitis." It was of appreciative interest and replete with information. The discussion which ensued was principally on the treatment, each member relating his success with a seemingly different treatment.

The Secretary reported upon a number of cases.

The Association was highly gratified to have had as their guest, Dr. Leonard Pearson, State Veterinarian, who very seldom absents himself from our Reading meetings.

Motion was made and carried to adjourn. Next meeting at Pottsville, June 15th, 1904. W. G. HUYETT, *Secretary*.

NEWS AND ITEMS.

DR. E. M. NIGBERT, B. of A. I., Kansas City, has been transferred to the South East Quarantine force.

THE KANSAS CITY VETERINARY COLLEGE gave a banquet at the Coates House to its 200 students on March 8th.

WM. H. GRIBBLE, D. V. S., the faithful and efficient Secretary of the Ohio State Veterinary Medical Association, Washington C. H., Ohio, is suffering from a recent inguinal hernia, which made its appearance without any assignable cause.

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"THE results obtained from the advertisement placed in the AMERICAN VETERINARY REVIEW by this college are really astonishing. . . . Please renew the 'ad' when it expires."—*(San Francisco Veterinary College.)*

THE HEALTH OF PRESIDENT ROOSEVELT'S HORSES.—President Roosevelt has consideration for the health and welfare of his horses. One of his latest requests, transmitted to Congress through Secretary Shaw, is for \$90,000 for a new White House stable. The one now in use, he says, is so damp that the health of his horses is suffering. They are threatened with influenza, according to the President, and he wants a new home built for them on higher ground before they catch disease and are permanently affected.

DRS. CHAS. H. PERRY, of Lakewood, N. J., and Augustus Berdan, of Paterson, N. J., have successfully passed the examination of the New Jersey State Board of Veterinary Medical Examiners, and have been duly licensed to practice in the State of New Jersey. Dr. Perry had been in practice for fifteen years, having graduated from the New York College of Veterinary Surgeons in 1889, but his registration did not appear on record in the County Clerk's office, where he supposed he was registered under the old law, hence the necessity of his taking the State Board examination for license under the new law. Dr. Berdan graduated from the New York-American Veterinary College in 1903, and has served as House Surgeon at that institution since his graduation.

HOW MILK INSPECTION SHOULD BE DONE.—The License Inspector of Vancouver thinks milk inspection belongs to the public health department, and that a specially qualified man should look after it. Quite right! The city should have a qualified up-to-date veterinarian make monthly inspections of every dairy and herd supplying milk for consumption. A bacteriological examination should be made of the milk vended, samples being taken from the rigs on the street, and on the result of the two officials' work should depend whether a license to sell milk should be granted or not. To babes and invalids, milk of the purest quality is essential. It is criminal negligence for a city to permit inferior milk to be vended, no matter who the vendor may be. It should not be necessary to doctor up a staple article of diet with preservatives in order to sell it.—*(Farmer's Advocate, Winnipeg, Manitoba.)*

ANSWERS TO CORRESPONDENTS.—*Dr. N. F. E., Ohio.*—The REVIEW cannot undertake to give you all the details of the

oxygen treatment for parturient paresis of cows. They have been published from time to time, and anything new developing in relation to it you will find in these pages. Dr. Ridge, of Trevese, Pa., read a very comprehensive paper on the subject before the Pennsylvania State Association on March 9. We hope to publish his paper in full as soon as received. He dealt with the most minute details of the procedure. See letter of Dr. F. R. Whipple in this issue under head of "Correspondence," which gives the details employed by him. Your second request for the etiology, pathology and therapeutics of azoturia must receive the same answer, though we regret to say that nothing as positive can be pointed to as with the disease of cattle. As you must know, if you have followed the literature of the profession in regard to azoturia, no acceptable theory as to the etiology has been promulgated, and the pathology of the affection is poorly understood. Its therapy includes the contents of the Pharmacopœia, though the belief that too much medication has been indulged in is gaining in adherents. . . . *Dr. M. P. D., Pennsylvania.*—Write Dr. Wm. Henry Kelly, Secretary of the New York State Veterinary Medical Society, 233 Western Ave., Albany, N. Y., who is also Chairman of the Prosecuting Committee of that Society. . . . *Dr. F. W. Culver, Longmont, Colorado.*—The article on "Congenital Tuberculosis" was by Dr. H. B. Freeman, and was published in the April, 1903, REVIEW, page 68. . . . *Otis A. Longley, D. V. S., Fresno, Cal.*—We do not know the name of the manufacturer of the revolving operating table referred to in your letter.

THE VETERINARY STANDARD IN CANADA TO BE RAISED! —The agitation in the columns of the *Farmer's Advocate*, editorially and otherwise, for a higher standard of veterinary education in Canada, has borne fruit. The Agricultural Committee of Toronto University drafted recently a curriculum for the approval of the University Senate, which provides for a three years' course leading to a diploma in veterinary science (V. S.) The holder of the V. S. diploma may after the expiration of one year be admitted to the degree of Doctor of Veterinary Science (D. V. S.) on presenting an approved thesis on the result of special research in a scientific laboratory. A significant fact is that all examinations will be conducted by examiners appointed and under the regulations approved by the Senate of the University. At a later date we shall take up the proposed course and discuss the details. It is now in order for the Veterinary Associations

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of Ontario and the Northwest Territories to perfect their organization and have legislation enacted similar to that in force in Manitoba, which insists on the licentiate to practice being a graduate from a three-year school. Such legislation in Manitoba has resulted in a better average veterinary service being available to the Canadian stockman and farmer than elsewhere in the Dominion.—(*Farmer's Advocate, Winnipeg, Man.*)

CLAIMS COW'S MILK TO BE THE GREATEST SOURCE OF TUBERCULOSIS IN MAN.—Justine Ingersoll, of New York, has the following letter in the New York *Herald* of March 9: "It has just come to my notice that you have done me the honor, in a recent edition of the *Herald*, to allude to my statement that cow's milk is the cause, and not the transmitter, of tuberculosis and all mucous diseases to both human beings and animals. Will you permit me to suggest that your correspondent has omitted the salient point in my denunciation of cow's milk as a food, which, in a few words, is this: After a thorough and exhaustive research I know that in such countries whose people do not drink cow's milk tuberculosis is unknown. I can cite authoritatively the following regions: Lapland, and the countries of the extreme north, where the milk of the reindeer is drunk by the natives; India and China, where the water buffalo affords the milk supply; the provinces of the Philippines where there are no cows and in spite of the prevailing dampness no consumption. And yet in Manila, where the climatic conditions are the same; but where civilization has introduced its crowning curse—the cow—tubercular diseases carry off more victims than either smallpox or fever. Australia was free from the consumption which now rages there up to the time of the importation of the cow, and the same incontrovertible truth holds good in regard to Japan, where consumption has become a scourge since Europeans have introduced the custom of drinking cow's milk. All great truths, by reason of their simplicity, are slow to be accepted and hard to establish. I most humbly submit these facts to all thinking people."

WEEDS USED IN MEDICINE.—The U. S. Department of Agriculture has just issued Farmers' Bulletin No. 188, entitled "Weeds Used in Medicine." The bulletin was prepared by Alice Henkel, Assistant in Drug and Medicinal Plant Investigations, Botanical Investigations and Experiments, Bureau of Plant Industry. Attention is called to the fact that certain well-known weeds now either generally or locally infesting the country are the sources of crude drugs at the present time obtained

wholly or in part by importation from abroad. Roots, leaves, and flowers of several of the species most detrimental in the United States are gathered, prepared, and cured in Europe and not only form useful commodities there, but supply to a considerable extent the demands of foreign lands. Hence it appears probable that while weeds can hardly be made desirable, still in his fight to exterminate them the farmer may be able to turn some of them to account. Some of the plants coming within this class are in many States at present subject to antiweed laws, and farmers are required to take measures toward their extermination. It seems, therefore, desirable to make these pests sources of profit where possible. The prices paid for crude drugs from these sources are not great and would rarely tempt anyone to pursue this line of work as a business. Yet, if in ridding the farm of weeds, and thus raising the value of the land, the farmer can at the same time make these pests the source of a small income instead of a dead loss, something is gained. In order to help the farmers to obtain the best possible results for such products, instructions for collecting and preparing crude drugs from weeds are briefly given. The plants mentioned in the bulletin are burdock, dandelion, the docks, couch grass, and pokeweed (principally root drugs); foxglove, mullein, lobelia, tansy, gum plant, scaly grindelia, boneset, catnip, hoarhound, yarrow, fleabane, blessed thistle, jimson weed, and poison hemlock (of which either the leaves, flowers, herb, or seeds are used in medicine); and also wormseed, and black and white mustards, of which only the seeds are used. Descriptions of these plants are given, together with the common names by which they are known in different localities, the habitat (or, in other words, the kinds of places or soils in which they are likely to be found), their geographical range, information as to the parts to be collected, their uses, the extent to which they are imported, and the prices usually paid by dealers. The principal uses for which these plants are employed in medicine are briefly indicated, but notice is given that none of the drugs mentioned should be taken without the advice of a physician. Suggestions are also given relative to the manner of disposing of the crude drugs and of packing and shipping them. The bulletin contains 31 illustrations of the weeds described. It is for free distribution and can be obtained on application to Senators, Representatives, and Delegates in Congress, or to the Secretary of Agriculture, Washington, D. C.

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VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table will be found the dates, places of meeting, and Secretaries' names and addresses of all the Veterinary Medical Associations of the United States and Canada, so far as obtainable by the REVIEW. Secretaries are urgently requested to see that the organizations which they represent are properly included in the list.

Name of Organization.	Date of Next Meeting.	Place of Meeting	Name and Address Secretary.
American V. M. Ass'n.....	Aug. 16-19, '04.	St. Louis, Mo.	J. J. Repp, 5249 Addison St., Phila., Pa.
Vet. Med. Ass'n of N. J.....	July 14, 1904.	Newark.	G. W. Pope, Athenia, N. J.
Connecticut V. M. Ass'n.....	August 2.	Waterbury.	B. K. Dow, Willimantic.
New York S. V. M. Soc'y.....	September, 1904	Brooklyn.	W. H. Kelly, Albany, N. Y.
Schuylkill Valley V. M. A....	June 15.	Pottsville, Pa.	W. G. Huyett, Wernersville, Pa.
Passaic Co. V. M. Ass'n.....	Monthly.	Paterson, N. J.	W. G. Fredericks, Delawanna, N. J.
Texas V. M. Ass'n.....	.....	.....	H. D. Paxson, Ft. Worth.
Massachusetts Vet. Ass'n.....	Monthly.	Boston.	F. J. Babbitt, Lynn, Mass.
Maine Vet. Med. Ass'n.....	April, 1904.	Waterville.	C. L. Blakely, Augusta.
Central Canada V. Ass'n.....	.....	Ottawa.	A. E. James, Ottawa.
Michigan State V. M. Ass'n.....	.....	.....	Judson Black, Richmond.
Alumni Ass'n N. Y.-A. V. C.....	April, 1904.	141 W. 54th St.	W. C. Miller, N. Y. City.
Illinois State V. M. Ass'n.....	December.	Chicago.	W. H. Welch, Lexington, Ill.
Wisconsin Soc. Vet. Grad.....	Call of Pres't.	Racine.	S. Beattie, Madison.
Illinois V. M. and Surg. A.....	August, 1904.	Decatur.	W. A. Swain, Mt. Pulaski, Ill.
Vet. Ass'n of Manitoba.....	July, 1904.	Winnipeg.	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n.....	July, 1904.	Greensboro.	T. B. Carroll, Wilmington.
Ontario Vet. Ass'n.....	December, 1904	Toronto.	C. H. Sweetapple, Toronto.
V. M. Ass'n New York Co.....	1st Wednesday of each month.	141 W. 54th St.	D. J. Mangan, N. Y. City.
Ohio State V. M. Ass'n.....	August, 1904.	St. Louis, Mo.	W. H. Gribble, Washington C. H.
Western Penn. V. M. Ass'n...	1st Wednesday of each month.	Pittsburgh.	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	Aug. 15, 1904.	St. Louis.	Stanley Smith, Columbia.
Genesee Valley V. M. Ass'n...	.....	.....	J. H. Taylor, Henrietta, N. Y.
Iowa State V. M. Ass'n.....	.....	.....	H. C. Simpson, Denison, Ia.
Minnesota State V. M. Ass'n...	.....	.....	J. G. Annand, Minneapolis.
Pennsylvania State V. M. A....	.....	.....	C. J. Marshall, 2004 Pine St., Phila.
Keystone V. M. Ass'n.....	2d Tuesday of each month.	Philadelphia.	C. J. Marshall, 2004 Pine St., Phila.
Colorado State V. M. Ass'n...	1st Mon. in June	Denver.	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n.....	June, 1904.	Undecided.	B. F. Kaupp, 3712 Michigan Ave., Kansas City
Rhode Island V. M. Ass'n....	June, 1904.	Providence.	T. E. Robinson, Westerly, R. I.
North Dakota V. M. Ass'n....	2d Tues. Jan.	Fargo.	E. J. Davidson, Grand Forks
California State V. M. Ass'n...	Mch. Je. Sep, Dec	San Francisco	P. H. Browning, San Jose.
Southern Auxiliary of California State V. M. Ass'n....	Jan. Apl. Jy. Oct.	Los Angeles.	H. D. Fenimore, Los Angeles
South Dakota V. M. A.....	.....	.....	E. L. Moore, Brookings.
Nebraska V. M. Ass'n.....	.....	.....	A. T. Peters, Lincoln.
Kansas State V. M. Ass'n....	January, 1905.	Topeka.	Hugh S. Maxwell, Salina.
Alumni Association A. V. Col..	April each yr.	New York.	F. R. Hanson, N. Y. City.

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It having been brought to the notice of the publishers of the REVIEW that some agents have been offering it for less than the publishers' price, \$3.00, absolutely without their knowledge and consent, and directly contrary to their rules, which are that the REVIEW is one price to every one, viz., \$3.00 to practitioners, and \$2.00 to students while attending college, they desire to call their subscribers' attention to the fact that immediately upon the receipt of said knowledge they notified such of the newspaper agencies as have been in the habit of sending in subscriptions to the REVIEW that if they received any at less than the publishers' price, \$3.00, their orders would not be filled, nor any subsequent orders that they might send in.

The publishers of the REVIEW are very much in earnest, and will keep a sharp lookout for these "cut-price" agents, who, through their avarice to secure subscriptions over the heads of other agencies, have caused some subscribers who are paying the regular rate to think they are paying too much, because some of their friends in the profession have been approached by these agents with inducements of reduced prices and premium rates. We take this opportunity of notifying subscribers, to *protect* them from the inconveniences that they would be subjected to under the above circumstances of not receiving their numbers (which they will *not* receive if we refuse to fill the orders) and of the delay in getting their money back from the agents, or the chance of losing it.

BLOMO FEED, a scientific combination of sterilized steer's blood, molasses and cereals, is advertised in the present number. Its experimental days are over, and it is daily demonstrating its capacity to furnish a balanced ration of a quality to make muscle, strength, energy and avoidupois in horses that draw loads and those that go fast. It suits digestion, and in animals which suffer from indigestion and colic it does more to overcome that tendency than any food with which we have had experience. Correspondence with veterinarians is solicited.

DR. J. M. PHILLIPS, of St. Louis, Mo., advertises in this issue his "Faultless Tooth Extractor" and his "Perfected Stomach Tube," both of which are exceptionally practical and valuable instruments for the practitioner.

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